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EDUCATIONAL REVIEW

JANUARY, 1920

I

THE AMERICAN TEACHER IN POLITICS[1]

THE NEW STATUS OF THE TEACHER

The era of the teacher's separation from politics and of his isolation from popular propaganda and public work on the problems of society has ended and a new era of increased responsibility for existing conditions and of increased power to remedy evils and redress grievances existing in society has begun. Heretofore, all teachers have depended for their influence and their authority upon an assumed professional status and a hoped personal acceptability in order to obtain recognition for their capabilities as public servants and for their efficiency as educators of the masses. Today this situation is changed so that as public workers they will have prominence at the polls, power as a business force in society and capability in the ways and means of state craft and of political engineering. Educational propaganda of the sanest and shrewdest kinds are from this time forth essential parts of all educational administration and service for the masses, while the spirit of conviction and of dictation will become the animating force of the workers in preference to that of irresponsibility and of persuasion. In the past, the only avenue of effort that was open to men educators has been that of argument, suggestion and solicitation, as their numbers were few and their subordinates were possest only of a moral and social interest, but with the advent of the woman teacher as an elector, the increase of organized numbers is so great and the opportunities of exercising power are so frequent and the uniformity of their intelligence is so pronounced that the united force thus provided can have unusual power in the deciding of the issues of society at the polls, and in educating the masses as to the actual truth of the problems that are submitted for public decision. By these recent developments, the teachers of any community, of any county, of any state and even of the nation have the numbers, have the intelligence, have the means of procedure, have the harmony of interest, have the freedom from prejudice and have the capability of knowing and investigating, that candidates for office, managers of political parties in campaigns and workers aiming to control and to direct public opinion, are obliged to recognize them as a new special class of independent and reliable voters. This recognition classifies them as thoughtful and active, and their opinions and conclusions can no longer be overlooked because of their unimportance or their indifference, while their votes will be assuredly cast at elections of all kinds and their decisions can be depended upon to represent honest intention, patriotic purpose and consistent policy.

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[1] Paper read before the Iowa State Teachers' Association, Des Moines, Iowa, November 7, 1919.

THE IGNORANCE OF THE INTELLIGENT

Even if these views be accepted as to the certainty and the probity of the teacher-voter, yet there remains to be adjudicated and comprehended and realized, that there is a possibility of such a condition among the so-called educated class as that of the ignorance of the intelligent. This situation is not a supposition but a fact, and teachers are proud possessors of this state of mind that deprives many of them of the real influence their education should give or their distinguished morality and position in society should confer. Business knowledge and personal capability as political thinkers are fundamental to proper efficiency in matters of government or in comprehending the problems that are continually dominant in many campaigns for votes in all classes of elections. National, state and local governments depend entirely for their success upon a financial sanity and a moral integrity in all the transactions that take place. It matters not how honest the intentions, how sincere the aims or how well determined the purposes, if financial undertakings of the government are not well and wisely managed, then the best endeavors are doomed to failure. Intelligence of a high order on all questions of the currency, on all problems of production, on all economic questions of success and prosperity, on all fundamental conditions of thrift and saving, on all propositions that enable the individual to have financial judgment, are of imperative importance to the competent and effective voter. Now teachers are commonly possessors of a supreme, well-satisfied confidence regarding their financial ability that is generally misleading. They believe that they can not be ignorant of the principles and practises of business, and that having good ability as scholars and instructors in the knowledge and wisdom acquired in and from the schools and colleges, they must also have business capability and judgment. It seems to them that they comprehend business propositions with a clarity that is unusual, a mental situation that induces them to deem themselves safe from fraud, imposition and trickery, and thus causes them to make investments, to accept blue-sky deals, trusting implicitly to the truthfulness of those who play upon their vanity with compliments in order to profit by their absolute ignorance in the school of experience. It can easily be established that intelligence in certain lines of thought and action is no guarantee against ignorance and incompetency in other lines of thought and action, but that all varieties of experience and of training for the judgment are required to insure to the well educated a fair chance to measure up in knowledge and standards of quality with many a man of special experience tho possest of less mentality and scholastic attainments. Therefore, to insure that teachers will be capable voters, requires that they qualify in all the characteristics and qualities of business intelligence and political enterprises in order not to be subject to foolish vagaries and reckless policies that are constantly developing in civic and national life.

ANOTHER EXAMPLE

There is equally as large a difference between political theory and political practise. Success as a voter on public policies depends upon how well plans and efforts can be carried out with efficiency and success, not upon how clear and promising they seem to be in theory. Political philosophy is often a great attempt to scheme out world affairs on so-called theories rather than on absolute facts. Philosophy and speculation are easy ways to come to convincing conclusions, while experiences and sanity are hard ways to come to conclusions. Nothing is nothing and there it will remain, however many times it is added or multiplied. Yet despite this well-known mathematical fact there are many would-be leaders of thought and action that vigorously endeavor to lead the people to believe that something can come from nothing; that such facts as prosperity, efficiency and capabilities are accidents and manipulations rather than products of hard work, strict economy and wise investments. These types of deceit are common in the treatment of the wage question, in the ideas that factories and businesses belong to those who are employees; that incomes are dependent upon opportunities and favors rather than upon industry and sacrifice; that administrators and managers are unnecessary and undesirable, because they are detrimental to the welfare of all; and that capital is a fiction invented to mislead the common people in order that success may be obtained by the few at the expense of many, who are refused their rights and their fair share of the returns of prosperity. In this way of thinking and reasoning it is easy to conclude that schools are directly conducted for the benefit of the teachers and indirectly conducted for the benefit of the pupils, that school directors and taxing boards and superintendents are not essential to the success of education or of the schools, that it would be better if all the so-called overlords were discharged and that the school teachers were allowed to conduct all these public affairs according to their own judgment and on their own initiative.

EDUCATIONAL STATESMANSHIP

What America needs in this year 1919–20 is statesmanship of the highest order, a kind of individual preparedness that makes voting at the polls decisive and determinative in results rather than a time for the displaying of party prejudice and political chicanery. What is the truth, is an ever-present question to be properly answered. What is the best plan to adopt to secure the progress of the truth and to insure the prosperity of all men by the right enjoyment of the privileges of citizenship, is a problem that is prominent at every popular election. It is said that the teachers of Chicago brought about the re-election of Mayor Thompson because they regarded him as their class friend, an officer who would use his influence to increase their salaries and reduce the alleged tyranny of school boards and school superintendents. A similar conception of what Mayor Thompson would do for labor, for laxity of law enforcement and for the underworld, when in office gave him the unanimous support of the denizens of the underworld, of the members of all labor organizations, and of the representatives of all questionable business enterprises that existed, as all sought their personal prosperity rather than the public welfare and progress. What all education needs everywhere is an honest, clean statesmanship, and without it as the spirit of direction and control there can be no notable prosperity or universal success. What the business interests need, what the social interests need, what the moral interests need, what the welfare interests need, is genuine statesmanship and the object of the new aggregation of voters should be that of discovering these fundamental conditions, of applying these means to ends, and of refusing to follow any leadership that does not mean in all sincerity the welfare, the prosperity, the progress and the happiness of the whole people. Man suffrage has failed to attain a properly high standard in the political organizations, policies and plans that have appeared, because of ignorance, incompetence and indifference existing among the great body of male electors. Woman suffrage will fail to help improve matters in the very beginning if the conditions of inexperience, of the lack of reliable information and of the suspicion of motives are allowed to hinder and to confuse the mind and the conscience of the woman elector. Suffrage extension is not a panacea for the ills of society, and its benefits should not be judged and estimated from such a standpoint because such extension is the recognition of the rights of the individual rather than the recognition of the competency of the individual to be wise in deciding political issues and moral aims by casting votes into a ballot box. The woman voter will come to her own in responsibility and efficiency only when she allows the claims of statesmanship to dominate her attitude and the knowledge of statesmanship to guide her decision on public questions.

THE INCREASE OF TEACHERS' POWER

The adoption of woman suffrage will greatly increase the mobilized power of the teachers of a community, but the result should be more in the direction of an honorable influence than it should be in the direction of a supremacy of numbers, because women teachers are so situated that they have special opportunities to touch the patrons of their schools in many effective ways. Thru mothers' meetings, thru parent-teacher associations, thru organized effort and propaganda, thru the fact that teachers are women workers independent and self-reliant, thru the public service that is constantly being accomplished, thru the unequaled opportunity for acquaintance and popularity, thru the possible efficiency of cultivating the homes and the people for the benefit of the schools and for the benefit of good citizenship, the teacher-voter is able to develop a following and to establish a constituency that can be depended upon for response to good will and for confidence in disinterested leadership, if the teachers are so well informed in the problems at issue and so rightminded in their instruction that they can give active direction and unprejudiced assistance to those who want to cast their votes in favor of the better outcome of society and the proper uplift of civilization. Since the teacher is on the job all the time, since the teacher can easily keep informed all the time, since the teacher can safely supply propaganda all the time, the very privilege of being a public servant gives large and telling opportunity to do the highest public service without selfish aim or individual object of promotion. These well-known possibilities give opportunities for helpfulness and for organized influence that depend largely upon the teachers' maintaining their independence of party control and their freedom from party spirit. The salvation of democracy as a system of government depends upon the reaction of the independent voter whenever the candidate is unworthy or the policy advocated is insincere and unwise.

THE TEACHER STUDY CLUB

Thus far the teachers' organizations have been academic, professional and social, the themes they study and the efforts they make being on the plan of self improvement, individual training and community educational welfare and cooperation. The object has been that of betterment of spirit by the diffusion of good feeling and appreciative sympathy. It has been accepted generally that other ideals and undertakings are not a part of the teachers' service to society. But now since responsibility has been enlarged and the necessity to be active as voters has come to be a fact, the teachers' study clubs must be equivalently civic and political. These organizations must ascertain the career and the accomplishments, the tendencies and the delinquencies, the supreme aims and the ulterior objects of every political party seeking authority to conduct the government, as well as seek to know the character and the competency of everyone who poses for authorized leadership in the community, the state or the nation. By such investigation and by such keeping in touch with current events, by such knowledge and by such experiences, the woman teacher as well as the man teacher can become so well informed and judicially minded that she would cast her vote intelligently because she is directed by reason and by discretion. For these reasons the teachers have the opportunity and the time and the energy to keep abreast of the activities of the age, to think out fully and completely the practical problems of the present and to come to definite and reliable conclusions governing the conduct and the administration of public affairs. In doing this training for citizenship the whole undertaking must be considered a real matter of necessary business, the application to be given must be regarded as absolutely impossible to be avoided, and the results to be obtained must be recognized as patriotic accomplishments to be secured for the welfare and the success of the common country.

ECONOMIC SUPREMACY

The chief end to be gained depends upon the teachers' not combining into an organization for the sole aim of economic supremacy or professional dominance. Their chief service ought to be helpfulness and enlightenment. Such an object as economic supremacy destroys their potency as patriots and eliminates their appropriate altruism as citizens, while the spirit assumed by such attitude deprives them of any effective civic leadership. Where class hatred and class combinations are called into action, as in labor organizations, as a means to secure self-advancement and to compel class recognition, there can never be the kind of consciousness that exalts and ennobles the personal life and the community welfare, as the spirit engendered is destructive. The chief danger of today is that women will vote as women rather than as citizens, that they will restrict themselves to class distinction rather than seek to gain citizenship distinction, and that they will believe that women's methods of thinking have special merit because of their origin rather than their special competency because of breadth of vision and fundamental spirit of efficiency. While the great majority of teachers are women they should rise above such mediocrity by so equipping themselves for statesmanship that their voting will have fundamental and lasting value in a republican form of government. By so doing, the majority of the votes cast at the polls will mean the best good to the greatest number and will produce a civilization that is founded on sanity and conducted with probity.

THE OBLIGATION MET

There is great need for a new ideal of democracy, an ideal that demands universal participation in every political movement by all the voters. Universal suffrage should carry with it universal activity and universal responsibility. Anything short of universal attention to the caucus, to the primary, to the public meeting and to the regular or special election should be sufficient to deprive any citizen of the right of suffrage. The fact that a voter is dissatisfied or displeased or out of agreement should never permit the individual to refuse to serve the country at the polls. The main evil in American politics is that of having the authority to help decide great questions and then refuse or shirk the responsibility to exercise that authority. To be proud of our common country and of our rights of citizenship is one thing; to be a dependable, conscientious factor in protecting this authority and in honoring this citizenship is quite another thing. To be a peripatetic worker in the great causes of civilization and of righteousness and yet claim to be a real man or a real woman of lofty aims and great purposes is a discredit to all assumed manliness and womanliness in civic responsibility, while the acting of a lie by pretending to be an advocate and defender of liberty and freedom is a deplorable attitude that is in reality dishonorable and indefensible. To relieve this common situation existing in America in our body politic, it is the bounden duty of all American teachers to begin at once a career as a politician in order that they may be positive factors in all progress and enlightenment.

PROPAGANDA

There is no fact more definite and well established than that the teacher of the children of the American people needs to be an active and a continuous propagandist for all the glory, excellence and progress of the race and of the country. By a judicious, sincere and patriotic propaganda, education, business, morals, religion and politics can each be purified and exalted as the determining factors in our civilization. They all need and require the right kind of organized propaganda to be able to fulfil completely their mission to society. On this account the universities and the colleges should become centers of great intelligence, culture, moral ideals and advancing social standards in which every aim should be the enlightenment and the improvement of mankind. For this culmination of effort the public schools should be fountains of nobility of life in which there rises continually the development of noble virtue, lofty character and abiding grandeur of life, appealing to every child to do his best, causing such a development of usefulness, of idealism, of standards of effort and of glory of realization that the grandest and the greatest outcome of personality and of productivity may be inherited and cultivated.

CLASS INTOXICATION

In carrying out these suggestions as to the province of the American teacher, there must be the most decided humility of spirit and the least exaltation over success. Class intoxication over the attainment of power or over the securing of place is a serious handicap in every enterprise where continuation of efficiency depends upon the support of the masses. A following in a democracy soon dissipates whenever the person of power drops the attitude of service or assumes the attitude of dictatorship. The chief political leaders are not office holders, nor seekers for promotion and prominence, but are those who thru their knowledge of the masses and the spirit of mankind are able to decide the policies and plans that shall be inaugurated and find the candidates for office who will be willing to give the personal services to reach these ends. No class of citizens can more easily accept such unofficial service or can be more successful in its accomplishment than can teachers in the common school, as their sacrifices as public workers give them a faithful following that enables them to wield power and attain true leadership. Even the committees and commissions who are appointed by groups of workers to secure legislation are too much inclined to boast of their prowess or their success or their influence rather than to give the entire credit for the results to the members of the General Assemblies who supported and adopted the laws. Workers of any kind who seek the public welfare, who sincerely desire the happiness and success of all the people should wait for their compliments and their commendation until these come from those who are benefited by the new conditions that have been secured thru using the means and ways of democracy. Any other assumption of authority will be disastrous to the cause and destructive to the power of the leader in such great undertakings.

THE TEACHERS AS INSIDERS

Yesterday the teachers were outsiders, standing at the door of public opinion and asking to be heard patiently on the great matters that experience had taught them to be of the greatest importance. As outsiders they were compelled to be satisfied if their plea was considered unacceptable or was even repudiated as impractical and unreasonable. All this is changed, as from this time forward the teachers are insiders, they are formulators of public opinion, they are creators of public expediency, they are organizers of administrative efficiency, they are expounders of social philosophy, they are promoters of economic betterments and they are assumers of political responsibility. As insiders they are partakers of personal initiative, they are solvers of public problems and they are coworkers in national and state development. This being their mission, their necessary acquirements are decided, their efficiency in initiative is evident and their opportunity for service is established. What the future may bring forth remains to be solved. What the outcome may become depends upon intelligence and wisdom.

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II

ON EDUCATION AND THE NEW DEMOCRACY

A pompous and ribbon bedecked Louis fourteenth of France rises in the council chamber before his minions of state and exclaims, "*l'etat, c'est moi!*" How much more relevant indeed for the tiniest of school kiddies of the present-day régime to pertinently assert "the state, it is I." In the first instance, behold the semblance of cynicism and tyranny; in the latter the embodiment of the ideals of the new democracy.

Gradually and more so, do we seem to be drifting to the Utopian goal where the school is assuming more duties which bring it in closer relation with the child and the home. An analysis of these present relations tempts one to ask whether or not the home and community in general are "passing the buck" to the state, in causing the latter to take on so many functions for the welfare of the child. However, since the child is the state, then the latter is simply preparing its own successor.

Anyone propounding these doctrines of child and state as near as three decades ago would have been regarded as a dreamer, an idealist and perhaps a demagogue. Today, social education is a salient feature of our civilization. Thru it results the coordination of humanity; the ability to fit into the general scheme of things and partake equally in the activities of an organized body, the state. Facts which, of course, bring with themselves the warning that an educator for the state today must not be of the intolerant or bigoted sort or attempt to inject any such traits into our modern school systems.

In the past, the school and the state were separated by a vast abyss; for education then centered on the abstract. The result was a great amount of economic waste engendered by the necessity of the individual obtaining sufficient education to bridge the chasm. Today we are approaching a sort of circular and reciprocal state of affairs with the child on the circumference. The school (state) prepares the child. The child matured is the state, and upholds the school. This is becoming possible because the school is gradually realizing the necessity for concreteness and the doing away with ideals that are merely echoing traditions of the past and reflecting a preparation for conditions which in our modern communities do not exist at all.

One of the earliest protests against this system to which our universities particularly clung with the tenacity which amounted to an institutional obsession, came in the seventeenth century from the physician and philosopher, John Locke. His great essay is in fact a protest against what he considered the tyrannic authority of the school and the transmission, generation after generation, of the traditions of the past. His classmate, the antiquarian, Anthony Wood, ascribes this phase of Locke's nature to a "turbulent spirit, clamorous and discontented," but it is very evident today that there was more logic than discontent in this objection of Locke's. It was this same Locke incidentally who may be said to have opened the great breach in modern philosophy which resulted in a separation of the two great branches of the Teutonic race, the German and English, and which terminated on the bloody fields of France. This, Locke may be said to have accomplished, by separating the Ego of Descartes from its metaphysical cage of antiquity.

Behold our academies, colleges and universities of today. The past observed them carrying upstream, oft against a probable upheaval, the purely cultural taint which aristocracy had bestowed on them. Today, how different. The efforts of the past simply resolved themselves to an accumulation of what might be termed Educational Chauvinism; hero-worship of antique literature and historical achievement.

The elementary schools of the past simply administered the trite and much abused "three Rs." If the child possest a little natural aptitude, he was considered then ready for the cultural Chauvinsim of the "higher education." But, unfortunately, not all were surrounded with the necessary conditions conducive to a college education. The result was very much in evidence. The schools, thru the caste system, permitted those very ones of its members to fall thru, who were the least prepared to become an integral part of the state. The links which should have united them to the state, had been denied them.

The proverbial lane seems to have been unusually long in this regard before the logical turning came. These conditions received their first shock when the Bastille fell and with it apparently seems to have come the realization that the element hitherto considered so unessential in the general scheme of pedagogy, that much scorned "third estate," could utilize education. But, unfortunately, there was no paragon from which to model a new system which would cater particularly to the proletariat except that which had been bestowed upon an aristocracy. Therefore it is that even at the present time we still find distinct evidence of the feudal and traditional systems in our curriculums, particularly in our universities.

One must condone the slowness of even the present-day changes in educational endeavors when we realize that today we are living in a materialistic world dependent on science for its progress; whereas in the past, advancement proceeded by the application of skill from the minds of the classes. Also it is a poor sport indeed who bewails the abrupt and sudden changes that come, oft overnight. For while the words efficiency and enlightenment are quite evident in educational literature, yet it must be quite evident to the observer that the educational world is just emerging from darkness and only from a distance comes a glimpse of the new and potent education of tomorrow.

This education of tomorrow will of necessity woo the new democracy. The greater vision leads to the idea of the school making all children a part of the state and permitting natural factors to ordain who shall become the leaders of the state and not thru the power of class privilege. One of the most gratifying evidences that the school and state are linking up is the splendid cooperation one observes in communities where the schools are beginning to teem with the new education. In the past one observes universal estrangement or complete indifference at best twixt school and home. Today we find the schools being utilized for community needs such as parent-teacher associations, mothers' clubs, boy scout organizations and the like. Even the state and federal authorities are recognizing the efficiency and potency of the school as a center of dissemination for information on various topics.

One of the greatest deficiencies in the past relation between the school and the state has been the abrupt, so to speak, washing of its hands by the state, of the child who had attained legal age. The occurrence might easily be deemed a tragedy, and is still with us today. No doubt it will continue to obtain, until there has been established a connection with the elementary school graduate and the state, that shall not be severed until the individual is placed in his life's vocation.

On analysis, the conditions which are extant at the present time resolve themselves into a continual production of the proverbial square pegs for round holes. Our elementary school humanity, as it emerges from what is in most instances an only too deficient education, to enter the intense struggle for existence, brings boys and girls forward with an impetus that is impelled; not by a system that has taken their immediate vocational future into consideration but has shaped their course rather after the fashion of that for a golf ball, which is usually propelled forward by, not necessarily, an insouciant attitude in the intention but with very much the idea that if it do not fall into one hole adjacent, it will undoubtedly find its way into one of the openings along the course.

Obviously then, such a system is lacking in the very accomplishment for which it was intended. Indeed our present-day status might be likened to that of a manufacturer who turned out pistons of one size to fit cylinders of approximate size, but instead of grinding them down to where each would slide perfectly and easily in its individual cylinder, is content and feels that he has done his full duty in making only an approximate adaptation.

The result is, of course, manifest in both instances, and yet one marvels to hear our dry-as-dust economist dilating on the presence of economic waste, discouragement, discontent and unhappiness, when one knows that it is due to the turning out semi-annually from our public schools thousands of boys and girls into a tense arena of unrest and a sea of turmoil with craft poorly equipt for the struggle and in only too many instances to fall by the wayside at the first adverse wind. Efficiency is the by-word of present-day demands but this is manifestly nipt in the bud by a system that ignores vocational training. The new democracy is seemingly calling a halt to this system, judging by the architectonic coruscations that one observes here and there on the part of our larger public school systems. The state indeed had best hasten and look to its laurels in this regard for there are springing up here and there institutions which formerly were content to dabble in sociologic endeavors, but having recognized the great need of the times are changing their signs and offering vocational training. However, the duty of the state in this regard must needs be unique and specialized, for to itself will fall the task of teaching the child how to find itself.

One of the strange phases of the modern vocational movement is the ever-present inclination on the part of humanity to swing from one end of the pendulum's course to the other extreme, by losing sight of the fact that the real and ultimate object of a logical vocational guidance movement is to keep the state in touch with its protégé, erstwhile the child, later the adult, and not to emphasize the relationship by merely finding a vocation or job at an early date and sacrificing an adequate amount of academic work that will always be essential. Odd indeed is this ubiquitous penchant of humanity to rush for extremes.

One sees and hears on every hand regrets and deprecations on the part of state and federal authorities that so many children leave their schools at an early date. Barring the factors of poverty and other like causes, the reason becomes lucid to the analyst. Is it not indeed because our educational systems in the past have failed to bring alike to child and parent the realization of the necessity for more mental equipment, for more and finer propelling power in the terrific struggle that is soon to encompass them? When the child has been imbued—and this is possible from the fifth grade on, according to modern psychologists, with the necessity for more scholastic training—then the task of the state becomes at once easier; and there is a greater probability of the removal of the relationship of step-child to the state.

The error in the past has, of course, been that the state administered its doses of education automatically from day to day irrespective of state or community needs. One of the arguments that the state might logically perhaps enter into its defence in this regard is that in the early days the state had little need to worry about the requirements and welfare of the child of legal age who left school; for the opportunities were then rife everywhere for the elicitation of out-of-school knowledge and its utilization. In other words, the individual in the past had ample opportunity to develop his mental and physical proclivities in the everyday pursuits.

The circumstances in those times were the ones requiring native forces such as foresight and courage. Their community work did for them what the state must endeavor to accomplish for its charges in the future. The new democracy demands a stage setting of economic conditions that will result in a perfect and amicable relationship twixt school and state in order to rectify with quality what the great world war has sapped up in numbers and vitality.

What is that you whisper, gentle reader? What about those influences that oppose the intimate relationship of school and state? The most aggressive argument advanced by these good folk suggests that the recent downfall of Germany was due to her control of the schools by the state. That is it! Germany *controlled* the schools. Our state does not *control* the school, it is simply in partnership.

And then, Germany did not set out to primarily control the schools. She found thru her Junkers that the school was one of her details of community life that was shedding light. Now the militarists were one of the world's systems that could not stand the light of educational analysis, so the Junkers must, of course, needs control the source for the interest of Junkerdom. The German autocracy controlled not only their schools but the very system of original thought that emanated in her sphere.

For example, Schopenhauer, one of those whom German Junkerdom could not entwine in its grasp, in his *Wisdom of life*, openly accuses Hegel and others of the modern German school of philosophy of pandering to the wishes of German autocracy and making their systems of philosophy subservient to its desires. As for Nietzsche, the prop and mainstay of Prussian bureaucracy, he died in a mad-house, a fitting sarcophagus for the propagator of a perverted and erratic system that foreordained the rape of Belgium.

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III

MATHEMATICS AS A STUDY

It is a certainty that educational wisdom will not die with this generation. Never in our history perhaps have such perplexity and indecision prevailed as now relative to the ends and methods of education. Nothing is any longer simple or fixt; everything is in a state of flux. The parvenu educational iconoclast is abroad in the land, and with opprobrious assurance hesitates not to lay unholy hands upon our most sacred educational traditions and institutions. No science or subject of investigation is any longer of value in and of itself, but only in so far as it contributes to something else. The implicit motive back of all this attitude is one of vulgar utility which is regarded as the sole and only reason for the existence of anything. We are, then, somewhat in a state of educational anarchy in which, with characteristic unwisdom, the blind are leading the blind with the conventional result of all getting into the ditch.

Convincing evidence of all this may be seen in the naive educational innovations which are being proposed from time to time. Thus it is decreed that the classical languages, which have been such honored and fruitful instruments of science and culture in the past, shall be entirely eliminated from the curriculum of studies; the teaching of history shall be modernized and wholly revolutionized, whatever that may mean; the natural sciences shall be treated by new methods differing from the present both in extent and point of view; and literature shall be pursued in such manner as to develop the interest and taste of the student, not to train his mind. In fact the general method proposed aims to operate thruout within the compass of the child's normal and actual interests, rather than within that of the rigorous demands of science itself; in other words, we are to teach what the child desires, not what science requires.

One of the most astonishing effusions of this character is the recent declaration of purpose to practically eliminate mathematics from the subjects of study in our schools. A complete scepticism as to the value of mathematics has been raised. Thus in *A Modern school*, a publication of the General Education Board, Mr. Abraham Flexner says in substance that only so much arithmetic should be taught as people actually have occasion to use, which would shrink the subject to modest proportions; and even this reduced amount, in serving real purposes, would be given incidentally by the teachers of science, industry, and domestic economy, in connection with such subjects as the need arises. Likewise algebra and geometry would be treated from the standpoint of the other subjects which they serve, and would be taught in such form, in such amounts and at such times as the other subjects require. In this manner it is proposed to reduce the amount of mathematics by something like three-fourths, and the remaining fourth to be considerably modified in form. In harmony with this view Mr. D. E. Smith, in his work on *Teaching geometry*, maintains that all the facts of geometry which a skilled mechanic or engineer would ever need could be taught in a few lessons; all the rest is either obvious or commercially and technically useless. And Dr. David Snedden, in the *Preliminary report on the status of mathematics in secondary schools*, likewise has raised the question as to why girls in high schools or as candidates for college should be required to study algebra; and he has also urged that a knowledge of algebra is of no importance to men following the professions of law, medicine, journalism and theology. These are but samples of the prevailing scepticism concerning the value of mathematics as a discipline in our schools.

It is further maintained that perhaps nowhere else is failure so great as in mathematics. Even when a certain degree of success is attained it is held to be frequently unintelligent, since children often mechanically carry out operations in algebra only guided by arbitrary signs and models, or learn only memoriter a series of propositions in geometry. The hollowness of both performances is held to be evident the moment a mathematical problem takes a slightly unfamiliar turn. Thus, it is pointed out, the child's helplessness exhibits a striking lack of both mathematical knowledge and mental discipline, and that this training thru failure can not be really valuable. It is also held that algebra and geometry are traditionally mainly deductive exercises, whereas practical living involves the constant interplay of observation, induction and deduction; mathematics as a deductive science, therefore, is unrealistic and valueless except in such minimum fashion as it may serve other subjects. The artificiality of conventional mathematics in general, it is maintained, raises a suspicion as to its value—even were the subject mastered.

Finally, it is especially emphasized that mental discipline, as a formal end in education, which has always been a paramount claim for the study of mathematics, is not a realistic end, since it is held to be an unproved assumption. At any rate, we are told, it is for those who believe in it to demonstrate how much good it does most children to make a failure in arithmetic, algebra and geometry. This would mean that all disciplinary value from the study of the subject is denied, and that even the knowledge of mathematics is of any significance only in so far as it usefully serves other sciences. All of which to the common mind is quite amazing! Indeed, in connection with this general mental aberration, the only lucid interval seems to be found in the attempted statement of the real problem at issue, namely: "Is the elaborate study of mathematical and spatial relations thru algebra and geometry a valid undertaking for its own sake? If so, neither the disinclination of the child nor the difficulty of the achievement is a reason for abandoning it. Disinclination and difficulty in that case simply put a problem up to the teachers of the subject."

But now we are ready to venture the judgment that such revolutionary conceptions relative to mathematics could have come about only from a complete ignorance of both the real nature and meaning of mathematics and of the psychological processes involved in education. The proposals are so palpably erroneous and unwise that they might better be resisted by simply ignoring them were it not for the fact that they emanate from a rather influential source which has taken on the office of a widely advertised and militant propaganda which may perchance work either to intimidate the weak or entice the unwary. For this reason, therefore, in view of the general confusion, it is all the more necessary that we should seek to come to some rational understanding of the whole matter, which we shall find to be of a somewhat complex character.

In the first place we may observe that mathematical investigation, like that of all other subjects whatever, result in two supreme values, namely, specific knowledge and mental discipline. And so far as specific knowledge is concerned, mathematics may be studied as a science in and for itself, or it may be studied as the instrument of certain other sciences. Accordingly for a more complete understanding of the subject we may take up for a somewhat detailed consideration: (1) Mathematics as a science in itself; (2) mathematics as the instrument of other sciences; (3) mathematics as a mental discipline.

MATHEMATICS AS A SCIENCE

All science is a product of the knowing mind. It is absolutely necessary, therefore, that we take into consideration the general nature of the human mind which creates a given science in order rightly to understand the meaning of such science itself. In our present brief study, in the nature of the case, we can take cognizance of but a few of the more salient characteristics involved in the problem. The first fact to be emphasized is that the mind is unitary, and that all its powers are more or less operative in every conscious act or thought. The witness of this truth is seen in the fact that there is but one logic, that is, but one set of laws of thought. These laws of thought are always the same, no difference in relation to what subjects of investigation they may be applied. For example, the judgment is the universal form of all thought. The process of thinking, therefore, is simply a process of judging, and judgments must vary according as they are specially devoted to the consideration of different subjects in the several spheres of human thought. Furthermore the laws of logic, the universal forms of thought, are also common to all intelligence. Thus two times two are four to you, to me, and to all rational minds whatever. If this were not a fact, knowledge would be impossible. Consequently growing out of the unity and community of the mind there emerges the sublime principle that there can be but one true science in any given realm, and therefore but one true mathematics. That is, there can be but one mathematical truth in any given relation. In the nature of the case all science must be universal in order to be science at all. If it falls short of this it is not science, but mere conjecture or belief. Mathematical judgments preeminently exemplify the objectivity and universality of thought with a purity and certainty of truth rarely met with in any other field except in certain phases of those sciences which are mathematically determined. Thus the judgment that the angles of a triangle are equal to two right angles, is not a mere caprice of my own mind and special to me, but is a necessary truth in the nature of all intelligence.

In the problem of knowledge there are two possible factors: The nature of the knowing mind, and the nature of objective being—that is, thought and thing. Growing out of this duality of process are two kinds of knowledge, namely, rational and empirical.

Rational knowledge is that kind which is given in the nature and laws of reason itself. Since the time of Aristotle and particularly since the time of Kant it has been clearly seen that the human mind has in its innate being certain norms by which it proceeds in fixing, defining and relating its objects. That is, the mind contains within itself the forms or frame-work of all thought whatever. These immanent mental principles which underlie all articulate experiences and make them possible have been called the categories. The categories simply exhibit the fact that the mind has a constitution or nature of its own which necessarily determines the character both of experience and knowledge. They are nothing more than the great forms under which experience is wrought, as space, time, motion, number, quantity, causation and the like. Logic itself is but an ordering of the implications of the categories. The laws of thought are but the manifestation of the categorical nature of the mind, and for this reason logic is formally the science of sciences.

Now mathematics is the purest of the rational sciences. Mathematics may be defined as abstract logic. Both logic and mathematics, the purely formal sciences, deal with relations which are, or can be, independent of all particular content, but admissible of any commensurate content whatever. Mathematics deals primarily with the three categorical notions of number, space and order or relationship. Arithmetic is the science of numbers in the abstract; geometry is the science of the properties of space; and algebra may be regarded as the science of order and relationships. All mathematical ideas admit of being referred to the one or the other of these three interesting but distinct spheres of thought. Like logic in general, mathematical propositions are not necessarily true in themselves, but if a given proposition be true of anything then such and such another proposition is true of that same thing. That is, mathematical propositions, like logical judgments, must be consistent with one another. The conclusion is true only when the premises are true; but the conclusions must always be consistent with the premises. Interdependence and mutual logical consistency is the only absolute requirement.

As a purely rational science, mathematics is basally intuitional. That is, mathematical concepts and judgments are formed from the immediate insight we have into the nature of our objects on the mind's own warrant to make universal statements about them and give them exact definition. By combining the definitions and judgments we may proceed to still other judgments indefinitely. From the universal judgments we deduce particular cases. Thus in mathematics we have certain ideas of space, time, motion, number, about which we affirm some universal principles on our own warrant. These principles are perceived by intuition, or immediate insight, and from them we build up great and important systems.

As intuitional, mathematics is the most wonderful of the sciences in this particular. As a strictly rational science, pure mathematics can be spun out of the inner categorical nature of the mind, without any objective reference whatever. And for this reason it is the only theoretically perfect science. Immanuel Kant was the first to discover that mathematics was but the unfolding of the inner nature of the mind. He says, in his *Critique of Pure Reason:* "First of all, we ought to observe that mathematical propositions, properly so-called, are always judgments *a priori*, and not empirical, because they carry along with them necessity, which can never be deduced from experience. If people should object to this, I am willing to confine my statement to pure mathematics, the very concept of which implies that it does not contain empirical, but only pure knowledge *a priori*." Mathematics then is unfolded by the mind from within, and is the freest field of untrammeled, constructive thought, save logic itself. In mathematics the mind is left to the creative devices of its own ingenuity. And since creative thought is psychologically the most profound and educationally the most beneficial and fruitful of all our mental activities, the highest measure of all rational accomplishments, mathematics must indisputably offer one of the supreme fields for self-expression and mental discipline.

Mathematical thinking, therefore, is the most remarkable example of the rational nature, working wholly within the bounds of its own powers, to be found within the entire range of thought. It develops the creative reasoning powers of the mind, encourages and demands inventive originality, which are the best and most to be desired of all mental acquirements. In mathematics the mind has the opportunity of bringing its own active powers into play and of giving expression to its own essential nature as perhaps in no other science whatever. And since education is not so much a putting of something into the mind as it is a drawing out or training up of the immanent potentialities of the mind, it would seem hardly possible to find any field of thought that would be a better discipline or offer higher possibilities for the unfolding mind of growing youth. And it may be regarded as a practical certainty that the inner essential powers of the mind will lack a certain unfolding and thereby be just so much dwarfed and impoverished if mathematics, the unbounded natural sphere of their exercise, be neglected. To think is to judge, and the exactness, rigor and certainty of mathematical judgments are unexcelled anywhere. And since we learn to think by thinking, and since mathematical thinking is not only the purest expression of the essential nature of the laws of thought itself, but demands an accuracy and consistency which is absolute in character, it must be evident to all that there is no discipline in the whole range of human interests superior for the elemental training of the growing mind. To eliminate mathematics, therefore, from the curriculum of studies in our schools would be little less than a policy of educational suicide. The great Kant again declares: "The instruction of children should aim gradually to combine knowing and doing. Among all sciences mathematics seems to be the only one of a kind to satisfy this aim most completely."

It has been held that mathematics is a pure deductive science, and has been criticised for that reason, since practical living involves induction as well. In our judgment this criticism is not well founded, in that mathematics certainly does involve a necessary principle of induction as well as deduction. In all thinking whatever both processes go along together. In mathematics, however, the generalizations, ordinarily reached by induction, are perceived by the immediate and direct insight of the mind. That is, basal mathematical truths are intuitive. When I judge that a straight line is the shortest distance between two points, this generalization is not reached by any objective experience of particular cases but by the immediate intuition of the fact, which is a clearer truth to the direct insight of the mind than any added attempts at proof can make it. Intuition, therefore, has in it the highest quality of induction, since at best induction is only a sort of intellectual ladder by which the mind climbs up to a universal truth. Furthermore and more particularly it must be observed that in strictness induction can not pass beyond the several individual facts of experience. Thus purely inductively we would be compelled merely to say that so far as experience has gone certain men were mortal; we could not thereby declare the universal truth that man is mortal. This "inductive leap" whereby we transcend judgments of particular facts and come to the universal judgment is essentially deductive. Isolated facts are of no value and come to rational significance only as they are subsumed under universal principles. And ultimately the human mind itself must posit all universal principles by some power of intuition or immediate insight of its own, since universals nowhere exist in the realm of experience. Individual men die, but there is no universal man to die. Induction then is not so much a movement of thought from particulars to the universal as it is a movement from particulars to particulars thru universal principles. The aim is universalization for the explanation of all included particulars. In deduction, on the other hand, when we apply a universal principle to an individual case such deduced fact becomes only a new instance for the support of the universal principle, and when we think of it as such we are universalizing in an inductive way. Thus induction is involved in deduction, and deduction is involved in induction. But the superlative truth which we need to set apart clearly is that universal judgments with which deduction begins and induction ends can be reached in no other way than by direct intuition or immediate rational insight into their necessity thru the unique universalizing activity of the mind itself.

The universal then is never reached and can never be reached thru particulars. Particulars only point the way by which the mind transcends them and by direct insight declares the universal truth. Hence the final proof of an induction must be that all necessary deductions can be made from it. Induction is helpless without deduction from which alone it gains the sanction of validity. When Sir Isaac Newton had induced the sublime law of gravity, that ponderable bodies attract one another directly as the mass and inversely as the square of the distance, in trying to prove it by the necessary deductions from the law he found that the relations of the earth and moon would not conform to the requirements. He used the most accurate measurements he could obtain regarding the size of the earth, but his results came out wrong. That is, the moon moved more slowly than it ought according to his theory. The difference was not great, but Newton could not overlook this lack of agreement with the observed facts. He came almost to think that nature had fooled him into believing in a universal law which in the end it denied him and not until sixteen years later, when Picart had discovered, from new and more accurate measurements, that the earth was larger than had been supposed, was he able to repeat his calculations with the corrected data and verify his hypothesis and complete the necessary deductions. Inductions gain fixity only thru deduction, and the major premise of all inductions and deductions must ultimately find its necessity and warrant in the mind's own immediate insight. Clear rational necessity is the final law of all valid thought.

From our previous reasoning it appears that intuitional knowledge, or, as Kant would say, *a priori* knowledge, is the highest and most certain of all knowledge—that upon which all science must ultimately depend and without which it could not exist. Accordingly deduction, which begins with universal judgments the necessity of which is determined by the mind's own insight, may be regarded as an even higher rational process than that of induction which is in itself restricted entirely to particular cases. Deduction gives the law of validity to induction and finally rules all thought. Mathematics as a pure deductive science, therefore, meets the requirements of clearness, absolute necessity, and universality as no other subject. The criticism of the deductive character of mathematics then instead of being derogatory is rather commendatory, in that it implies the highest knowledge of which the mind is capable. Mathematics is a field in which the mind may freely revel with a sense of completeness and joy of perfection without compare; here the mind may mount up with wings as eagles, run and not be weary, or walk and not faint.

Discursive reasoning is a necessity of the finite mind; but to an infinite mind it is conceivable that even the most recondite and abstruse conceptions might be as intuitively clear as to us is the simple truth that things that are equal to the same thing are equal to each other. That is, we may suppose that a supreme intelligence would not have to mediately think as we do, but that to it all truths whatever would be immediately and intuitively given. Accordingly, we may say that mathematical truths, as basally intuitive, give our finite minds the opportunity of entering into a realm of thought which approaches in likeness the perfection of the infinite thought more than in any other discipline.

From this insight into the nature of mathematical thinking we are able to see that it is here that the mind exercises its most infallible processes in realtion to that kind of truth which is the aim of both induction and deduction, and thus enters into the most perfect and universal sphere of intellectual accomplishment. And since in mathematics the mind also proceeds by creating its objects by definition, there is unlimited possibility for original invention; it can make these objects of thought anything it will. It is bound only by the law of consistency. It is impossible, therefore, to see how the young mind could employ itself in any field to greater advantage in the development of its latent powers.

No subject offers greater range of originality and creative device combined with exactness and rigor of thinking than is found in mathematics, and its elimination from the curriculum of studies would be an irremediable loss.

MATHEMATICS IN RELATION TO OTHER SCIENCES

In empirical thinking, on the other hand, the mind transcends itself and seeks to gain a knowledge of objective fact. But even here it must be evident that the objective existing thing can become an object for us only by our thinking it or constructing it in thought and thus making it our object. The object never comes into our minds, and our minds never go out to the object; there is simply an unpicturable interaction in which the mind creates within the vision of the world as we find it in perception. In the rational sciences our universal propositions are the expression of immediate insight or are reached by general reasoning which takes no account of particular cases. Thus, if I know that $S = {}^1/_2\, gt^2$ and $v = gt$, I have the whole science of uniformity of accelerated motion, and a law for all possible cases. The same is true of mathematics in general; we reach the universal without the slightest consideration of particulars. In mathematics we define our objects from within; in nature we define our objects from without. And for this reason we can not say what the hidden nature of outer things implies; an *a priori* science of nature is impossible, or at least possible to the slightest degree. Early ages sought to construct nature in this way but with vanity and vexation of spirit. In nature we have to obtain our universals from a consideration of particular cases, and inductive method is the only way of approach. For this reason the natural sciences have been much slower in their development than mathematics. Not only so, but they have been dependent upon mathematics as their only instrument of exact expression.

The categories of thought apply to all contingent objects but completely express none. In so far as the categories express objects an *a priori* science is possible, but only in so far. For example, if objects have regular form, outline, and area, we can determine their properties by geometry; in so far as countable, the category of number applies by arithmetic; as events, the categories of time and causation apply. But these formal relations are far from exhausting the objects. The specific qualities and characteristics of nature are not told thereby at all. So far as the abstract categories are concerned, any number of other worlds are as possible as the actual one. The study of nature, therefore, is far more complex and uncertain in method than mathematics, and for that reason is hardly as good a subject of investigation for young minds; it may properly come later with better advantage. Altho the human mind is the instrument of all knowledge yet it is evident that in the case of empirical facts the mind can not proceed upon its own warrant, but must construct its knowledge in harmony with the phenomenally given conditions.

We have seen that mathematics is best calculated to develop the innate powers of the mind itself. But mathematics as a formal science, the science of the ideal, also becomes the means of investigating, understanding and making known the world of the phenomenal. By mathematics we bring the objects of the phenomenal world under the control of the conceptions of number, quantity, and relation. Mathematics thus becomes the science of the functional laws and transformations which enable us to convert figured extension and rated motion into number. Applied mathematics, therefore, seeks to discover the equations which express the laws of phenomena. As the object of pure mathematics is the unfolding of the laws of human intelligence, so the object of pure physics is the unfolding of the laws of the intelligible world. Mathematical concepts and principles extend to all objects and changes of the phenomenal world, and the consideration of mathematical relations forms a large part of many of the sciences which treat of phenomena and the laws of external nature. Astronomy, optics, mechanics, physics, and chemistry to a degree, are notable illustrations.

The Pythagoreans nearly 600 B. C. for the first time pursued mathematics independently and brought it to great perfection. They were especially impressed with the immaterial in matter, the order which prevails in the world, the unity, proportion and harmony in its contrasts, and the mathematical relations underlying all things. In geometry, in astronomy and in music everything is ultimately reduced to number. Hence they affirmed that number is the principle and innermost essence of the world. Things are sensible numbers; every being represents a number, and the final goal of science is to find for each being the number for which it stands. Number is being. They represented number as the ruling principle in space relationships. In music their harmonies show an exact knowledge of the simple arithmetical relations, as string lengths and the like, out of which musical melody arises. Also the regular revolution of the stars, of which they made the most careful measurements, made the world-order appear to be numerically determined. Thus their theory attempted to determine mathematically the permanent relations of cosmic life. Since abstract numbers and number relationships are found in many different things and processes, numbers are the original forms which are copied by things. This is the same as saying that the abstract mathematical numbers are applicable to any concrete cases. It appears, therefore, that the basal truths of their conceptions had firm foundations, that the mathematical relations are applicable to the measurement of the phenomenal order of things. The Pythagoreans did not understand the pure formal and subjective character of mathematics, but they did appreciate the fact that the science of phenomena was possible only by means of it. Mathematics, with its unlimited possibilities, filled their minds with romantic wonder and expectation. And with justice, for this expectation has been fully realized in the application of mathematics to the physical sciences, especially astronomy, physics, mechanics and engineering. In fact the scientific conquest of natural phenomena in many relations has been made possible only by the agency of mathematics. We may say, in fact, that the aim in every science at the present time is to reduce every body of fact and phenomena to a quantitative and numerical equation so far as possible. Even the Mendelian law in biology takes on this character, and the statistical formulations of the data of economics, sociology, psychology and even ethics strive to realize such mathematical expression as is possible in their respective spheres. And no approach to an exact science is even possible without the assistance of mathematics.

It is evident, therefore, that a high degree of knowledge of mathematics is necessary for the prosecution of natural scientific studies in the special realms which are peculiarly dependent upon it. The study of mathematics then must be pursued, if for no other reason, in order to understand at all the phenomena of the world in which we live; and certainly nothing as an object of knowledge can be more obligatory, useful and desirable. But when it is suggested that the study of mathematics should be pursued in connection with such subjects as the need arises only, there is no teacher of astronomy, physics and mechanics, for example, but that well knows if he had to stop at each juncture of need to teach the mathematics upon which his scientific principles and calculations rest he would not only never get forward with his given science at all, but that both his subject and the mathematics upon which it depends would be brought to a disjointed chaos. In the nature of the case there could be no real mastery of either the mathematics or the science to which it should be applied. All of which would be to pervert the best advantage of both subjects. This is not to say but that in the teaching of mathematics it may indeed be well to make it as concrete and applied as possible. But since mathematics is a great system of knowledge in which one principle is built upon another in mutual relationship, it is evident that the mathematics involved in physical theories is so complex as to require a knowledge of the whole underlying system in order to gain the perspective of its application in a given case. Hence the teacher of physics would have to go back and give the entire course of mathematics required as a foundation of the specifically needed principle before he could advance a step further in the instruction of his special science. And nothing more uneconomical and unintelligent could be devised in educational method than this. We must unhesitatingly declare that mastery in either subject implies the required mastery in both. By the attempted conglomerate study of mathematics with other subjects as the need might arise, we could never gain a comprehension of the organic unity either of mathematics as a science or of physics, astronomy, or other subjects to which it is applied. The proposition is puerile and visionary. Concrete physical principles may be used to illustrate mathematical truths, but profound mathematical insight is necessary to guide in the theories of physics. Descartes pointed out as proof that mathematics far surpasses in facility and importance the sciences which depend upon it the fact that it embraces at once all objects to which these are devoted and a great many others besides. It is just because mathematics is so great a formal science and is applicable to so many phenomenal realms that it, like logic itself, should be mastered as the common instrument of science. For this reason alone the study of mathematics would be justified, if for none other. But without the mastery of mathematics first, its attempted application to the several sciences would be foolishness.

MATHEMATICS AS A MENTAL DISCIPLINE

Heretofore it has always been regarded as a fact of universal experience that the human mind becomes disciplined by action. That is, by the study of any subject in a thoroly scientific manner the mind has been supposed to acquire a certain increment of power, dexterity and ability. This pure disciplining of the mind has been termed formal training. The possibility of such discipline or training has never been questioned until comparatively recently. And even now scepticism has arisen concerning it, not from the facts of experience, but from the adroit legerdemain of certain psychological experimentalists who have developed an ability deceptively to demonstrate to their own satisfaction any presuppositions with which they start out. Following blindly this lead certain would-be educational reformers maintain that "mental discipline" as a formal fact is an "unproved assumption." It is likewise held that there can be no transfer of training; that is, the study of any one subject aids not at all in the study of any other subject, except in so far as the elements of knowledge in the one are of like character to those in the other.

But over against this notion, just as the most unsophisticated man knows that in using his muscles he gains strength thereby, so likewise he knows that in using his mind he gains intellectual power; and as in using the muscles of his arms in chopping wood he gains a muscular strength which may be transferred or utilized in the driving of a nail, sawing a board, or any other function whatever in which such muscles are employed, so in like manner it has always been a matter of common knowledge that, since the judgment is the universal form of all thought, in training the mind to judge, say in the study of Latin, biology, or what not, we gain a mental strength or power which can be transferred or applied upon occasion to the study of mathematics or any other subject. And the ground or reason for all this we have found to be in the fact of the unity of the mind. There is but one mind which thinks, and the same laws of thought are used in all mental processes whatever. The same laws of the mind are operative in the study of Latin as in mathematics or any other subject. In learning to think, to judge, and scientifically to study any subject, therefore, we thereby train the mind to get possession of itself and awaken it to skill in the enforcement of its own laws. And in gaining a mastery of the formal or subjective laws of thought in the training of the judgment we acquire a power of thought which may be transferred to or used in any subject to which thought may be directed. In thinking we use and train the whole mind.

It must be admitted that the knowledge of any one subject can not aid at all in the knowledge of any other subject, except in so far as there is a likeness of the elements of knowledge in the respective subjects. But this is a wholly different matter. If we hold that the mind gains no formal or subjective power from the study of any given subject which may be transferred to use in the prosecution of the study of any other subject, we must implicitly maintain that the mind is not unitary but made up of compartments, and that in exercising any set of laws or powers in a given subject such laws alone are involved and other sections of the mind are thereby untouched. And this would mean that there must be a different logic, different laws of thought, for every different subject in so far as they are different. But this is absurd, and would make knowledge itself impossible. Such a view would also invalidate all the significance of a liberal education and a college course would be worse than a waste of time as a fitting for life in general. The greatest thing in all education is the gaining of the mastery of the use of our minds. Education is far less valuable in the knowledge we acquire than in the mental power and discriminative judgment developed by the process. Instead of mental discipline being an unproved assumption and accordingly useless, it is the most potent fact of all education and is the supremest value the student ever gets out of his course of studies. The actual knowledge that even a college student ever gets out of his course and carries with him into life is a veritable minimum, and were it not for the trained mind, the superior development of mental powers which he may apply in any field of endeavor which he may elect, the perennial derogatory criticism of the college graduate would be entirely justified. Formal training or mental discipline is a self-evident fact in all educational experience. For this reason the college-trained man has always been sought for responsible labors of every character where mental power is demanded, and such training has been found from experience to be a necessary prerequisite for the best accomplishment in law, medical and other professional schools.

In this connection, also, it must be pointed out that only a few psychologists have ever claimed to find by experiment that there is no formal discipline and no transfer of training, whereas many others have claimed by experiment to exhibit the opposite result. This fact brings the whole process of experimentation into question. It would seem that the psychologists are either incapable of performing the complex experiments required or are unable rightly to interpret their own experiments. There is something wrong with the experiments or the experimenters. We submit to educators, then, that it is not well to be too hastily stampeded by the assertion that mental discipline is an unproved assumption, but rather to recognize the fact that centuries of educational experience has been the best possible psychological experiment by which to test the fact of mental discipline and the transfer of training—facts than which there have been none more certain. The most carefully conducted experiment is that of Rugg, in which the coefficients of correlation were found to be: For mathematics and descriptive geometry, 0.70; for mathematics and foreign languages, 0.50; for mathematics and English, 0.40. We have here, therefore, only to insist on the claim of mathematics as a unique mental discipline, which develops the inherent powers of the mind, and enables it to give expression to its own categorical nature in original creative thought with a clearness and exactness offered in no other subject, and accordingly as peculiarly fitted for the development of the unfolding mind of youth.

There is no great science but that is worthy of study for its own sake. The very possibility of such a science is evidence of the fact that it is a field for mental conquest. To master it, therefore, is in itself a worthy object. Complete scholarship could never stop short of this. Knowledge in any sphere is worthy of possession for its own sake, for the pure joy of knowing. In this spirit the Greeks believed that wisdom alone was virtue, and Spinoza regarded philosophical contemplation of the world necessity as the supremest intellectual and moral beatitude. There is published by the Carnegie Institution of Washington a marvelous mathematical work on celestial mechanics by George W. Hill, an American scholar, of which President Woodward has said there are not perhaps ten men in the world who can read it intelligently. If it be asked what possible use there can be in such mathematical speculations, the answer must be for the sake of science itself. But also, we might add, for the sake of such practical results as may come from such science. Poincaré's great mathematical speculations on the problem of three bodies were based on the work of Hill, and he had the reputation of being the greatest philosophical mathematician in the world. It is said of Pythagoras that, when he discovered how to demonstrate the theorem "the square of the hypotenuse of a right-angled triangle is equal to the sum of the squares of the sides," he proceeded to celebrate the event by sacrificing a hecatomb of oxen; and we can conceive of no occasion on which the desire to honor God would be more fitting than upon the discovery of an infallible universal truth. All truth is divine. And with Kepler, we may say, when we read the secrets of nature we are but thinking the thoughts of God after Him.

The so-called realism in education is but another name for utilitarianism, which tacitly assumes that no education is really valuable unless it ultimately yields dollars and cents or that which is practically serviceable. But this is an unworthy conception of education. If the college student were never to use his education in such way as to earn a dollar, it would be to him nevertheless his most valuable possession, for the reason that it alone would enable him to truly live in any high and worthy sense. By it he is enabled intelligently to enter into all the currents of spiritual life of his age and time and appreciatively to comprehend and enjoy them. He is thereby companion of the great of all the ages in literature, science and philosophy. Instead of one who only eats and breathes and sleeps, he is a rational and intelligent being. Education must be for an exalted life, not merely for making a living. We have seen that mathematics serves a unique function in this education in the development of the native mental powers. But we may say that in general it is not so much what we study as how we study it. Mastery, and again mastery must be our educational shibboleth. And the demands of science will be satisfied with nothing less. A real mastery of the great fundamental sciences, of which mathematics is not only one of the greatest in itself but also one of the most useful in its service to many other sciences, is indispensable as a foundation for true scholarship. Any improvement in the methods of teaching must be welcomed. But instead of eliminating mathematics from our studies, we must seek rather to increasingly perfect and enlarge it.

When it is asked, does it do the student any good to fail in mathematics, we answer that it does him the same good as it does to fail in any other endeavor whatever, and it is a matter of common knowledge that children do fail at first in most things. But we must be willing to fail in the beginning of anything if we will at last succeed. Did it do Demosthenes any good to fail in his first oration? Failure is most certainly a great good if it but steels our resolve to triumph. Trial and error are the universal agencies of progress, and the road we fallible creatures all have to travel. And only those who are willing to fail will ever succeed. It seems that anyone who raises such a question relative to the acquisition of a great science must have forgotten all he ever knew about his own intellectual history. Where there is the will there is the way, and if there be not the will education and all accomplishment are hopeless.

It must finally be admitted that the time spent in the study of mathematics may differ according to the purposes in given cases. To the skilled physicist, mechanic, or engineer a mastery of mathematics is a great asset, even if the facts he would need could be learned in a few lessons. It would be found that the student with the few lessons proposed would soon break down in the real mastery of the applied sciences, for the reason that his mathematical knowledge would lack perspective, and he would be wanting in vision. To say that girls need no mathematics, and that students of law, medicine, journalism and theology need none, is to say that in these callings men and women need no actual development in one of the mind's greatest potentialities. If we say we do not need developed minds in these relations the point might be granted; but otherwise there is as much need of mathematical training as in other general vocations. In brief, the conclusion concerning mathematics is: All need some; some need all.

Perhaps no instruction is so difficult in the beginning as that in mathematics, since young minds are disinclined to be harnessed with the necessity of rigid logical conclusions. But not what the youthful mind desires, but what science requires must be the standard of instruction. If American scholarship would reach that exalted position we crave for it, then instead of minifying the great fundamental sciences we must set our wills to a more thoro and profound mastery of them all; and instead of practically eliminating mathematics from the curriculum, we must study it as never before. Nature causes our bodies to grow spontaneously and naturally; but nature never made a mind capable of intricate thinking, without a lifetime of discipline and faithful endeavor. Who ever became a scholar but that knows the toilsome labors required to build a potent, thinking mind? As the excellent Berkeley declared: "He that would make a real progress in knowledge must dedicate his age as well as his youth; the later growth as well as the first-fruits, at the altar of Truth. '*Cujus vis est errare, nullius nisi insipientis in errore perseverare.*' "

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IV

IS THE LONG SUMMER VACATION NECESSARY?

In connection with the all-year schedule for colleges now being given serious consideration it is pertinent to remark that two great American schools have always been run on practically such a schedule, and with marked success. These are the Military Academy at West Point and the Naval Academy at Annapolis. With the exception of one month's leave, the month of September, the midshipmen at the Naval Academy are kept busy all the year round. The academic term extends thru eight months, or from October until June, broken only by an occasional national holiday. The months of June, July and August are spent in practical work on board the ships of the navy. But even this practical work has an academic coloring inasmuch as midshipmen have to make close and continued observation of the details in their assignments and to record them in voluminous notebooks. In a sense, therefore, they are under instructions for eleven months out of the twelve. Furthermore, the members of the entering class are in the harness, so to speak, for fourteen months before they get a rest, since from the day of their matriculation in June until October 1st, when the academic year begins, they attend lectures and do considerable reading in naval history under the supervision of the English Department, and from then on until the following September they follow the regular Academy schedule. At the Military Academy vacations are still rarer, for the cadets are allowed but one month's leave of absence during the entire four years' course.

Now the graduates of neither the Naval Academy nor the Military Academy are broken in health from such a continuous strain, nor blear-eyed from too much application to books. On the contrary, they are physically in better average condition than are the graduates of other institutions. This is probably because quite as much attention is given in course to the physical side of the men as to the mental. Play is allowed at regular periods, at least enough to avoid the lugubrious possibility suggested by the proverb about "All work and no play," while daily drills and other physical exercises conduce to the same end, and at the same time build up the body to keep pace with the mind. The result is our military and naval graduates are alert mentally, and most of them are well-built specimens of physical manhood. They have gone thru four years of almost continuous schooling and have come out rather able men on the average. Indeed, if we could add together the mental and physical efficiency of these men and somehow strike an average, I feel confident that it would compare very favorably with, if not considerably exceed, the average mental and physical efficiency of the graduates of any other American college.

If the average product turned out each year at West Point and Annapolis is, at graduation, a more efficient member of society than the average college graduate, it must be partly owing to the continuous training he has been under. I say, *if* he is a more efficient member. I can not prove that he is. Neither the army officer nor the naval officer is educated so widely. He may not know so many things as his brother who has attended some other American college, but he has learned two things very well. One is the value of time; the other is the necessity of thoroness. Whatever task is set him he is likely to do it at once and to do it shipshape and out of hand, as the sailors say. I do not find this readiness and this sense of completeness so evident among graduates of other institutions, but rather the tendency to do things in a more leisurely fashion and to be satisfied merely to do them well enough. If such a tendency exists it must be partly the result of their having obtained their education in a less intensive way. Life at an American college is no very strenuous affair, if the writer's own experience is any criterion. When the graduate comes to reflect upon his student days they seem to have been on the whole rather free and easy. As for the long summer vacation, business and professional life have not allowed him any such jolly loaf, and it never will. These facts perhaps explain why so many college-bred men are, at graduation, neither educated nor efficient in any high sense of the terms. The colleges have not required their utmost of them, and the summer vacation has let them lie fallow all too long. At our two government training schools, on the contrary, young men are held to an intellectual and physical attention, so to speak, for eleven months out of the twelve, and the result, at least so far as the capability of the individual graduate goes, is remarkably good.

The success of these two schools, then, in preparing young men for efficient service should dispel the generally accepted notion that students need the long summer holiday for mental and physical recuperation. Children may, but college students are no longer children. They scarcely need so long a period of relaxation, and more yet, many sadly misuse it in ways too numerous to mention. The mental strain of required college work is not, as a general thing, so severe as to require all summer for recuperation. The cause of breakdowns among college men is not usually the mental strain to which they are subjected, so much as it is the lack of any regular system of physical exercise. College men are prone to sadly neglect this feature of their life or else to devote altogether too much attention to it. At our naval and military academies, however, the training is more carefully balanced. The strain of eleven months of steady application is modified by well-balanced and well-distributed physical exercises. Hence, altho the schedule at these academies is long and severe it is very rare that a cadet or a midshipman suffers either a mental or a physical breakdown during his course, or shows signs of rapid deterioration within any reasonable time after graduation.

Now the general excellence of the graduates at West Point and Annapolis would seem to indicate that youths who have reached the age and maturity of mind required for entrance to college, and who are in reasonably good health, not only do not need to give up anywhere from a fourth to a third of each year to vacation, but might profit considerably if their vacation time were reduced. Boys in their latter teens might better use a large portion of this time in the preparation for the real work of life. Many do so who are especially ambitious; on the other hand more do not. Having dropt their books and practical work they proceed to forget much of what they have just acquired and do little that has a direct bearing on the future. So the summer goes by, and little is accomplished. Water wastes at both the spigot and the bunghole. The youth who should be storing up knowledge and power for future use is for several months storing up very little except in a very hit-or-miss fashion; he is mainly marking time. His preparatory period is thus lengthened unnecessarily, and both he and the community suffer a certain loss in efficiency—not to be accurately estimated, of course, but nevertheless a loss.

Of course there are certain obvious difficulties in the way of lengthening the college terms. How would this affect the poor boy who utilizes the summer months to acquire the money to pay his expenses for the college year to follow? And how about the teacher who would thus be deprived of much of the leisure which he has come to regard as an inseparable part of his profession, and which he thinks he must have for reading, recreation, or research? And then there is the matter of additional finances. These objections are of moment and deserve consideration. But they are not insuperable, and even if they were more weighty than they are it would still be pertinent to ask: What are our colleges for if not to prepare young men for the serious business of living the best lives that they are capable of? And what are teachers for if not to assist these same young men to the fullest extent of their ability? If the present, old-fashioned method of running our higher educational institutions somewhat intermittently for three-quarters of the year and then letting them stand idle for one-quarter does this as well as it can be done then by all means let us make no change. But it is well to note right here that no other successful business in the world is carried on in quite so easy a fashion, and the business of education is probably the most important business that we know anything about.

It is not, however, the purpose of this paper to suggest the proper length of the collegiate year, but merely to call attention to the fact that the courses in two world-famous government schools do not embrace lengthy vacations, yet the average of the yearly output, to express it in business terms, is high. Neither is it the purpose of this paper to advocate military discipline for all our higher institutions of learning. It would be a mistake to turn our fine colleges, with their scholarly traditions and their atmosphere of quiet culture, into military camps, where spiritual productions might become secondary to the pomp and circumstance of war. Yet the success of both these military institutions in producing capable men would seem to indicate that some of their features might well be copied by other colleges and universities. Perhaps it is a stricter oversight over the habits of the students; perhaps it is a less broken, more continuous course of study; perhaps it is both. Modern life demands more and more the elimination of waste, not only of materials but of time. Where college students are allowed to go and come pretty much as they please, and where the college terms allow considerably more time for relaxation than the ordinary student needs, the result is a loss of time; and time lost is usually time wasted.

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V

THE HEALTH PROBLEM FROM A NEW ANGLE

The ending of the greatest war in history in the complete overthrow of the autocratic rule of Germany and in the complete victory of the democracies arrayed against her marks a great advance in the political freedom of men. With political liberty and personal freedom ever prominent aims in human society, we have had to learn by intense and hard combat that liberty is not in itself something to be expected as a natural result of social organization. War should not be necessary for the attainment of liberty, but those ignorant of history and economics and inclined to conceive liberty "as among the raw products of nature's cosmic forces" are not helpful in achieving another method. On the contrary, political liberty and individual or national freedom are the result of far-seeing vision, clear intelligence and vigorous purpose.

Because the mind and heart of the world are in tune with the yearnings of men and women to be free and appreciate their purpose to achieve liberty, the time has past when the political freedom of man can be put in jeopardy. It is therefore pleasant to believe, and it is rational also, that never again will kings or emperors, either with a philosophy of Divine Right or any other shibboleth, enslave the minds and bodies of men and women to the extent seen in Imperial Germany.

We like to believe that with the freeing of Germany and her allies from the power to exert her will in the matter and with the inculcation of the doctrine of humanity in the affairs of the nations, man has attained complete political freedom from the sort of arbitrary and irresponsible rule that at one time was common in the world and only lately removed from the one modern nation of power, wealth and influence. With this new consciousness we speak bravely and smile serenely at the thought of tyranny.

But there are tyrannies more subtle and more dangerous to our happiness and welfare than those lately overcome. We talk rather freely of freedom and altho it is generally understood that by that word we mean political freedom, it is important to point out at this time that the men and women of the world are tolerating a bondage, are enduring a slavery, as definite and real, as avoidable and as unnecessary, as the political slavery that fills the pages of history.

The wars of the world have been wars of conquest and fights for freedom, but we are awake scarcely to the possibilities of personal freedom from disease, from unsatisfying and unwholesome instinctive habits or the glories and rewards from the overthrow of silly customs and foolish traditions. To continue the analogy we may say that health, vigorous and fine, does not follow in these days of complex social organizations as a natural result of nature's forces. In a purely vegetative or instinctive existence that might be true but in civilization as organized, health is something to have by birth or to be attained, in either case to be kept by care and intelligence.

In these days with the recent victory over autocratic power fresh in mind, we are prone to talk about "life, liberty and the pursuit of happiness" and "that every man is born free and equal." It is amazing, however, to find that we are naive enough to believe that people will continue to accept such untruthful statements. Where is the equality that permits a child to be born of syphilitic parents? What opportunity has the child with opthalmia neonatorum to secure happiness as the seeing know happiness? Where is the equality that permits a child to grow up in a home where tuberculosis is active and menacing—without any of the known safeguards? If "born free and equal" is to be interpreted as meaning equality of opportunity, what chance has the rural child? If happiness is in any way lessened by poverty and disease, what is to be said concerning the following recent figures by the Life Extension Institute:

"Out of every 100 healthy men who are 25 years old today, statistics indicate that 36 will be dead at 65; 53 will be dependent on relatives or charity for support; only 5 will be well-off; only 6 will be self-supporting."

The following quotation from a London letter indicates the slavery, the oppression of disease, the devitalizing forces in society that make our civilization incapable of achieving happiness and liberty for the great mass of citizens. The situation described in England can be duplicated here. The Selective Draft has shown that.

THE NATIONAL PHYSIQUE

London, Nov. 5, 1918.

"In the *Observer*, Professor Arthur Keith discusses the question of the national physique. He refers to the declaration of the prime minister, Mr. Lloyd George, who asked the minister of national service, 'How many more men could we have put into the fighting line if the health of the country had been properly looked after?' and was told, 'At least one million.' In the course of voluntary work at the ministry of national service, Professor Keith obtained the results of the surveys that are being carried out all over the country by the medical boards in the examination of recruits, and that the prime minister has understated the seriousness of the position. Dividing the population into four grades, he considers that if 1000 young men may be taken at random and graded according to their physical fitness, the following should be expected under good conditions: Grade I, 700; Grade II, 200; Grade III, 75; Grade IV, 25. Grade I includes men fit for general military service, and Grade IV men unfit for any of the duties of a soldier. Grades II and III are intermediate. The actual figures obtained from a large industrial town were: Grade I, 190; Grade II, 270; Grade III, 410; Grade IV, 430. The objection, however, may be raised that the present population of our towns is merely a residue left after the departure of the fit young men to active service in the earlier years of the war. After the age of 30, men tend to become degraded, that is, to pass down the grades. On turning to trades that have been exempted from military service in the earlier years of the war, the objection just made is largely removed; but the figures remain very serious. They are: Grade I, 270; Grade II, 152; Grade III, 158; Grade IV, 420. Professor Keith attributes these results to slum life. Slums produce children who become men of Grades III and IV."

Yes, it is an old story after a fashion. Disease, deformity and ignorance stalk abroad over the land. In that particular sense, then, we are not free, and we shall hardly attain freedom by the usual and lazy phrases about human nature and what has always been.

The long list of preventable diseases, the inherited taints and stigmata of degeneration, the whole line of neuroses that hinder the efficient functioning of society, the inadequate regulations and controls in industry, the paucity of health education, the millions living selfishly below their best, the lack of social sense and attitude in those who are ill, the wholly inadequate physical training of children, the character and extent of our recreational facilities—all indicate with a clearness that should arouse action the fact that we are slaves, that we are not free.

The health work in America, as in Europe, has been based upon medical inspection, disinfection, isolation, quarantine and school gymnastics. We have recently been following Germany and England in agitations for health insurance and old-age pensions. We, as they, have been dealing with the mere checks on disease and deformity. Such procedure alone is a failure. All the purely regulatory checks are in themselves insufficient. We have been trying to control the primary springs of action by drills, placards and newspaper illustrations of model tenements.

It is therefore stated that the health problem requires:

1. A new approach which shall consider motives. Nothing less than an interpretation of life, its aims and purposes, will satisfy. The fundamental purpose of health must be set forth and the possibilities of a magnificent life outlined.

This is so because the usual and traditional methods are not getting results and because this approach concerned as it is with motives is fundamentally right. It should be pointed out that this approach will also indicate the direction for solving so many of the perplexing social problems of the day. Education has informed people of the causes of disease, the dangers of certain practises and habits. The school naturally is the strategic place for launching the attack, but knowledge alone is not sufficient. The whole field of hygiene must be invigorated with purpose. The interpretation must be in terms of fine living and may well be made in terms of a magnificent life.

2. The health problem requires, in addition, adequate and effective provision in society for control of the factors

that can not be or are not cared for by the individual and that influence health, so that all may have the fullest liberty and opportunity to live magnificently.

The checks and control now in existence have been incomplete and ineffective. Much of the success in this direction will come only with proper education of the needs and desirability regarding control. In some instances it will be desirable to set minimum standards. Certain it is that congenital disease, sources of infection, light, air and food, working and living conditions in which groups are endangering health, recreation and education will come within the scope of the control that society should exert.

Because men and women of the modern world are submitting to an inheritance of disease, to a perpetuation of vicious custom, to a slavery of mediocrity in health and power, to preventable losses that hinder happiness, sincere and intelligent efforts must be put forth on the fundamental problem of national and individual health.

Ignorant and superstitious peoples still believe in the punishment theory. God's wrath in the form of sickness is to these simple minds a way out of the great world of unknown things. On the other hand intelligent and well-educated people constantly live below their best and frequently sacrifice health in the pursuit of selfish and altogether unworthy ends. Between these two extremes there are millions lost in the quagmire of physical weakness. To all must come the opportunity to live a magnificent life and therefore controls must be exacted everywhere; and to all the possibilities of fine living, with proper motives supporting individual effort, must be set forth.

Scoffers will everywhere attack such proposals; skeptics will indulge in the usual doubts. It is therefore important before elaborating the subject to come to some understanding of the nature of man in the effort to find a ground for our argument on the one hand and a place to tie to on the other. The liberty is taken of stating positively that human nature is not static. It remains at this point to indicate the reasons for this fundamental belief.

HUMAN NATURE IS NOT STATIC

One of the most common and groundless beliefs is that conveyed by the statement that "human nature is human nature." The connotation here is that man has always reacted in one way with reference to his habits and customs and that he always will respond in just that way. It is equivalent to saying that man is a beetle. It would be as illuminating to remark that governments are governments, that civilization is civilization.

What are the facts in the matter? Is man today by nature any different from the man two thousand years ago who met the problems of that time, or is he essentially the same? It is accepted today that the German soldier in the conduct of war has shown types and forms which would compete favorably with the East Indian, for example, who mourned grievously if he did not strangle as many travelers as his father before him. On the other hand, such rare examples are not typical of the civilizations represented. It is more important to indicate the ideas of dominance in the world today and compare them with those prevailing a short two thousand years ago. Such comparison shows that we have progressed immeasurably as regards our attitude toward women, and the modern phrase social justice has included women in its programs. The conscience of man is more active and is less individualistic. We are more willing to render service for others. We have less superstition as regards religion in forms and creeds and are more exacting that verbal expressions show in actual deeds. We have a greater solicitude for the care and training of children. We are more humane as regards the sick and old.

Human nature has evolved. Man today is a finer, more intelligent mechanism in work, in play than he was generations ago.

The dynamic character of human nature is gaining recognition in all fields of action. It is not unusual to find its expression in unlooked-for places. A recent magazine writer, feeling his way toward this position, says in a splendid story:

> "It is commonly said that whatever our personal vicissitudes, human nature remains the same; but tho that may be true of the past, I doubt if it will be true of the future. War on the scale on which we are waging it has already changed human nature. It has changed it as the years change a baby to a boy and a boy to a man. It has lifted human nature up, drawn out of it what we never supposed to be there, freed it from its slavery to time. . . . . We have seen youth doing the work of maturity, maturity that of youth, women that of men, men that of women. We have seen cowards transformed into heroes, rotters into saints, stupid, idiotic ne'er-do-wells into saviors of mankind.
>
> "We shall never go back again to the helpless conviction that youth must grow slowly into age only to have age decay into ugliness and senility. Since we have thrown off our mental shackles in great moments we shall see that we can do the same in small, and having emerged on a higher plane, we shall stay there."

This is the sort of spirit that looks at man as progressing in an evolution in which the physical is in abeyance and the mental and spiritual elements predominant and active.

But there are those who think only of the instinctive side of life when they speak of human nature. They are perfectly willing to attribute to man an increase in sense of right, a finer and more wholesome point of view in all fields of intelligent expression, but they are unwilling to admit any improvement or any reason to expect improvement in such a matter, for example, as sex. The sex instinct is, in the minds of this group, so all powerful, pervading and established that one can not expect modification from the usual and traditional in this field of life. In other words they are saying that we must expect children to be born hopelessly defective just because the sex instinct in the father could not be controlled; that it was unseemly to inform the mother as a young girl of what she ought to expect of the man she married. In another light, this view means that our hospitals must continue to care for more syphilitics than any other group of patients, that our medical students must know syphilis and gonorrhoea better than any other disease in order to practise successfully, that the great number of still births must continue as before, that the estimated number of abdominal sections on women for conditions due to gonorrhoea contracted from the husband must still stay at the top rate of 70 per cent, that insanity in New York state, for example, will continue to give syphilis as a cause in 25 per cent of the cases in institutions, and that the institutions for the blind must still register its victims of gonorrhoea ophthalmia. Those who hold to the view that human nature is static must subscribe to the famous epigram of Osler that the history of civilization is the history of syphilization.

The attitude with reference to human nature and the sexual life is so striking that it serves as a clear cut illustration. But it must be remembered that this attitude is reflected in many ways in response to problems that are in no way sex problems. Many of the opinions concerning tuberculosis and cancer and most of the preventable diseases reflect this thought of the static nature of man. The prevailing attitude regarding senility, exercise, and many items of personal hygiene shows the same fundamental lack of vision and understanding. It is important therefore to investigate this point of man's nature and to set forth all the data at hand for mere feeling in the matter will not suffice.

The main argument for not considering human nature static is based upon the knowledge that human beings are intelligent. It will be shown that man illustrates the supreme development of intelligence, concerned with relations, dynamic and constantly adapting himself to new forms, and that animal life illustrates the highest development of instinct, as in the hymenoptera, concerned with things, static, using over and over again the old things and getting the old reactions.

From this point of view, then, our contention that human nature is not static resides in a statement of the nature of man and animals with reference to intelligence and instinct.

The scientist is helpful in this connection. His story is thrilling indeed; for when a biologist places upon the stage of the microscope the thin sections which show the development of the cell, he has upon that bit of glass the primary living wonder of the world. But these sections do not tell the entire story, for life goes back to simple origins in part suggested by the cell, and to complex and wonderful organizations of which the cell is a mere promise. The form of the cell and its morphological changes too often absorb our attention; the essential, and for an appreciation of the argument here, vital characteristic to be observed is that the cell is merely the physical expression of an impulse of life. Evolution has merely deposited the life impulse in a particular form in time and place.

The evolution movement would be a simple one to describe and its direction could be readily determined, if from the single cell to man there were no intervening species. The branching lines leading to forms now non-existent and ending at times in types so different from the final product leave much to be desired. The entire evidence is not available but there are sufficient data to give the broad outlines. We can trace back to the remotest beginnings the origin of animal and vegetable life.

In the beginning no definite characteristic distinguishes the plant from the animal. Attempts to define the two kingdoms come to naught. There is not a single property of vegetable life that is not found in some degree in certain animals and not a single characteristic of the animal that has not its counterpart in certain species of the vegetable world. These two groups may be defined most satisfactorily not by the possession of certain characteristics but by the tendency to emphasize them. Life is a tendency and its manifestation in these groups may be observed as a tendency with greater comprehension of its whole meaning.

It is important to follow the expression of this impulse. In the vegetable cell it early came to an impassé. This cell, surrounded by a membrane of cellulose, was condemned to immobility from the start. From the bottom to the top of the vegetable kingdom there are the same habits growing more and more sedentary, the plant having no need to move, finding around it in its environment all that it needs for life. It remains thus today, a living monument of immobility and torpor.

The life impulse in the animal, going on to the conquest of the nervous system, exprest itself in forms that developed mobility. With this came consciousness. The more the nervous system developed the more numerous and precise became the movements that it could start; the clearer became the consciousness that accompanied them. Here was the beginning then of the conscious control and guidance over life that was to mark man as different from the animal; this same conscious control is needed today if man is to meet the problems of his environment in a rational way.

In the animal the life impulse took two definite directions; it emphasized and carried thru two tendencies. The soft organisms needed protection and there arose that group of animals preserving their lives by encasing their bodies in hard shells. In their torpor the crustaceans, the echinoderms live today. Doing so they decreased their mobility and lessened consciousness. Some forms escaped. The ganoids with their protective breast plates gave way to fishes with scales, a less protective covering but allowing greater mobility. The insects freed from the protective breast plates of their ancestors made up the deficiency in heavy covering by an agility that enabled them to readily escape their enemies.

The arthropods and vertebrates gained increasing mobility and consciousness. Their evolution is most illuminating with respect to tendency and nature. Bergson puts the situation so well that his own words are helpful at this time.

> "The evolution of the arthropods reaches its culminating point in the insect, and in particular in the hymenoptera, as that of the vertebrates in man. Now, since instinct is nowhere so developed as in the insect world and in no group of insects so marvelously as in the hymenoptera, it may be said that the whole evolution of the animal kingdom, apart from retrogressions toward vegetable life, has taken place on two divergent paths, one which led to instinct and the other to intelligence."

This then is our argument. Human nature can not be considered static in the light of a life impulse evolving always in man toward intelligence. A corollary of this is true: life with conscious and intelligent control, in short a rational life, must break away from the instinctive urges, if it is to develop in harmony with the great fundamental laws of man's existence. If we were to acquiesce in thinking of man as instinctive, as a being in whom the main motives and reactions were to be responses to instinct and without conscious and intelligent control then we would accept such statements as, "human nature is human nature." But this can not be! The entire evidence from evolution is that human nature is not static, that instinct is not a stage in man's development and that intelligence, so far as evolution has anything to say, is the goal of man's progress. To quote Bergson again,

> "The cardinal error, which from Aristotle onwards has vitiated most of the philosophies of nature, is to see in vegetative, instinctive and rational life, three successive degrees of the same development of the one and same tendency, whereas they are three divergent directions of an activity that has split up as it grew. The difference between them is not a difference of intensity, nor, more generally, of degree, but of kind."

It is important to emphasize this point. Man's nature if not instinctive can not be considered as static. Those individuals guided by instinctive and animalistic urges do not mar the argument, but rather indicate the need for the appreciation by society and especially by educators of the tendency in human evolution, so that education everywhere may seek more directly for conscious and rational control.

F. Matthias Alexander in that remarkable book, *Man's supreme inheritance*, indicates very clearly the dangers encountered by instinctive guides. In a reply to William Archer he says, "The whole purpose of my book—is to submit that the course of evolution has tended in the direction of our obtaining conscious control of our own bodies, and argues that this is the only means by which we can rise above the artificial restrictions, often physically poisonous, imposed by civilization. And I assure you, sir, that this ideal of conscious control is absolutely unrealizable by any person who is guided and restrained by these subconscious habits of thought, and who is, in consequence, quite unable to exercise the free use of his intelligence."

Here again the essential difference between man and animals demands that we place man's nature in the field of intelligence and, so far as any program of man's culture is concerned, indicates the direction that the social or individual effort is to take.

Because man is to be considered as evolving toward a more rational life in which no instinctive urge will achieve the usual, the traditional and static responses, the whole health problem must be reconsidered and approached from a new point of view. The history of hygiene shows how stupid and awkard we have been. We have thought to deal with personality by tooth-brush drills and medical inspection, by prophylaxis and punishment, when the very source of all hygienic action so far as meeting the crises of life is concerned, was the conscious and motivated intelligence of the individual. The problems of health in the individual can not be met by mere checks on disease alone, or by information on the dangers imminent; indeed, national health presents the same situation. There must come virile motives for attaining a fine end, motives that are rationalized, and conscious. For some time, perhaps always, there will be need for adequate machinery in government to accomplish certain state and regulatory procedures.

The sort of growth we ought to expect in the coming years is a definite, increased control over the instinctive phases of life. All are not awake to the meaning of intelligence in man or the possibilities in human happiness from its dominance. The conscious control that will insure growth, when "all the functions of life are becoming an intelligent harmony," will give expression to broad, human social motives; on the contrary, the instinctive and subconscious guide leads to defeat and a social debacle. We should forever escape from the folly of expecting Providence to prevent disease or control the subconscious self; a rational life aflame with moral purpose is alone effective.

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VI

A GLIMPSE AT CHINA'S MIDDLE SCHOOLS

Having had a first-hand opportunity of observing the work done in three of the most important government middle schools of a great interior city of China, it may be interesting to others engaged in the teaching profession to mention a few of my outstanding impressions. First of all in considering any phase of China's educational problem, one must bear in mind that the nation is passing thru a transition period. The country is in a state of flux. In introducing a Western system of education to an Oriental land one encounters the difficulty of putting "new wine into old bottles." The change thru which China is now passing may be compared with the intellectual awakening which took place in Europe in the Middle Ages.

THE OLD AND THE NEW

In 1905 the transition commenced. It was the beginning of a transition from the old order to a new. A new life was astir in China and in every department of society the change was felt. Perhaps the most remarkable reforms were begun along educational lines. It was in 1905 that Yuan Shi Kai secured a degree abolishing the old system and providing for a new system of education. But it was not until 1912, after the Republic had been established, that the government actually undertook to start the new movement. The following kinds of schools were established thruout the Republic in September, 1912:

(1) Lower Primary School—four years' course.

(2) Higher Primary School—three years' course.

(3) Middle School—four years' course.

(4) Preparatory School or Junior College—three years' course.

(5) College or Professional Schools—three or four years' course.

The jump from the old system to the new was sudden and great. The old education of China was concerned with the classics and some Chinese history. No science, nothing of geography or history or political economy of other nations was taught. The object of the student was to store his memory with characters and to cultivate a good literary style. There were no schools as a Westerner conceives schools. Playgrounds and recreation? The only recreation the student had was to walk in the garden which surrounded his home, for it was in the homes that the classes were held. Usually the boys of one or perhaps of two families met together to write and drone over the characters set before them by the "lao fu tzu" or old scholar. The system was impossible because in the first place the old teacher knew nothing about the rules of pedagogy and in the second place his curriculum consisted of but one or two subjects.

And then came the revolution of 1911 and the overthrow of the Manchus. Enthusiasm for the new education spread like wild fire. Schools were set up wherever buildings could be secured, without regard to the advantages of reaching the people. In Nanchang near East Lake are two schools located within ten rods of each other—one, the First Middle School housed in an exhibition hall and the other, the Ta Tung Middle School located in an old temple. In considering the problem of the new education in China one must not forget the gap between the old and the new systems. It has not been completely bridged because there are thousands of boys, especially among the richer classes, who are still digging away at the classics in their homes.

The advantages of the new education are so apparent that it requires but a cursory examination to show that the schools of today are infinitely superior to the home-study method. In the first place a community spirit is at once developed in the schoolroom and on the playground. Under the old method there was no "lai wang" or intercourse with young people and consequently the boy grew up with the ideals of his elders. He was denied a natural boyhood. He never learned how to play. His ideals were narrow and he had no opportunity for self-expression. But with the organized school there came a school life and spirit which gave the student new ideas about society. The fellowship, games and entertainments in which he participates today are broadening his outlook and giving him a new view of life.

MIDDLE SCHOOLS PROMOTE DEMOCRACY

The importance of the middle school in the life of the nation can not be overestimated. Students in these schools are from fourteen to twenty years of age—the most plastic period of their lives. It is at this age that they will receive their most valuable ideas in regard to democracy, social control and group action. The fight for the Republic in China is now on. From the students of today must come the political, industrial, commercial, educational and religious leaders of tomorrow. It was inspiring and refreshing to hear one of the students of the Second Middle School addressing the members of the English Club of the Nanchang Y. M. C. A. in these words: "Danger! danger! China is in peril. Do not sleep. Awake!" He sounded an alarm to the youth of China, pointing out that China was like a ship without a rudder and that the only hope of the nation was in her young men. This is but one of the scores of similar testimonials that have come to my attention within the past few months, showing that the spirit of freedom is taking root in the lives of the young men of the country. Dr. John Dewey in his *Democracy and education* says: "A democracy is more than a form of government; it is primarily a mode of associated living." At present China is a Republic in name only, but the spirit of democracy is growing stronger every day.

China is just entering the seventh year of the establishment of the Republic. She is a little uncertain as to the direction of her movements. But does a child walk when he is seven months old? Did the United States develop into an indissoluble union within seven years after the Revolutionary War? When we consider that it was many years before we abandoned the Articles of Confederation, and that it was not until 1865 that we settled the question of States' Rights, and, further, that it was not until the United States entered the Great War that the country was united as a man, we are forced to the conclusion that China is developing at a rapid rate. The expression "You can't hustle the East" has lost its point. China is moving right along.

The full import of any great movement is always difficult to grasp. It was two hundred and eighty years after the crucifixion of Jesus before Christianity was tolerated in the Roman Empire. In 1520 Luther dramatically denounced the pope's authority but it was not until one hundred and thirty years later that the success of the Protestant Reformation was assured. The first English colony was not planted in the New World until one hundred and fifteen years after Columbus made his immortal voyage.

The hopeful aspect of the educational situation in China is that the government has continued to support the schools. If the government continues to offer a practically free education to all of her children we may reasonably expect that many educated reformers will arise. Education has produced practically all of the great reformers of the human race—Lincoln is an exception. The Republic has already been established long enough to prove two things: first, the country will never again become a monarchy; second, the education in the nation will be democratic in character.

A TYPICAL MIDDLE SCHOOL

The first impression that one receives on examining a middle school is that the school has had a "mushroom growth." One quickly reaches the conclusion that China has not yet struck her gait. She is still in the embryonic stage. The experimental stage has been past but just ahead there is hard work to do before one can speak about fixt policies. With crowded curriculums, overworked students, untrained teachers and poor administration it is evident that the goal has not been reached. In the First Middle School of Nanchang there are four hundred and fifty students. Five provinces are represented. So keen is the desire of the students for knowledge that they are rarely absent from class. The desks, furniture and equipment are of modern pattern but cheaply and poorly constructed. Even the floors of the building are of the squeaky and rickety kind, due in part to a lack of good lumber in China but largely due to carelessness in construction. Standards are lower in China than in Western countries, and it is yet too early to look for reinforced concrete buildings. Dormitories are maintained in connection with the school, the boys being housed in three different places in the immediate vicinity.

The faculty numbers thirty-six teachers, one of whom is a returned student from America while several are returned students from Japan. The average salary is one dollar per hour tho several instructors receive a fixt rate somewhat in advance of that amount.

The budget for the year is about $12,000 reckoned in Mexican exchange. More than half this amount is appropriated by the Kiangsi Provincial Government, while the remainder is made up in fees paid by the students. The Commissioner of Education for the province is directly in charge of all funds disbursed for school purposes.

The curriculum provides for the following subjects: Mathematics, German, history, geography, English, economics, biology, physics, chemistry, bookkeeping, music, drawing, Chinese, manual training, physical education and morals. Every student has from thirty to forty hours of recitation per week with the result that he has insufficient time for study and practically none for recreation. The physical instruction that he receives consists of a set of monotonous calisthenics or the performance of some ragged military drills. The manual training department certainly does not remind one of a munitions factory but the fact that students do actually saw boards and drive nails is taking a long step toward a much-needed type of instruction in the schools today.

China has always had a scholar class. The old type scholar with his long finger nails, bird cage and tortoise shell spectacles, was a well-known figure a few years ago. But the new student class which has suddenly sprung into importance and power is composed of entirely different kinds of individuals. The new type is arrogant and untried. These new students feel the importance of their position and take liberties which amount to nothing less than license.

PRESENT NEEDS

Volumes have been written on the needs of China but perhaps a few more words on a subject pertaining to the needs of a particular group of her young men will not be amiss. A short time ago one of the leading students of Hsin Yuan Middle School made this statement: "I think Western science is better than Chinese science but Chinese philosophy is better than Western philosophy. The philosophers of Greece and Rome did not save their countries. China has had many struggles but she has never fallen. Her philosophy has saved her." In one regard this student was right. The first great hope for China is the introduction of Western science—not mere book knowledge or theoretical science, but applied science. She must be shown how to make machines, build railroads, open mines, farm scientifically, care for her sick scientifically and withall she must be taught the principles of efficiency. The utter lack of system and the careless half-hearted methods of work in China are painfully apparent to every Westerner who sets foot upon the land.

Industrial education must be taught in the schools—industrial education that will teach a boy or a girl how to make a living. Agricultural, industrial, business, commercial and domestic science courses should figure prominently in the curriculums of all schools. Training for citizenship is essential. Heretofore the one outlet for a man's ability has been political life. There must be several channels thru which one can express himself and serve his country if education is to play a large part in the life of the nation.

The second hope for the Republic of the Far East is Christian education. Many Chinese, like my student friend, do not realize the failure of Confucian ethics to save China. China has not been saved by her philosophy. First of all she is her own worst enemy. For centuries she has had a set of moral guide posts that have failed to guide. Mr. Yung Tao, an eminent merchant philanthropist of Peking, is authority for the statement that the three greatest evils in China today are gambling, concubinage and immoral sex life. Unless these evils are combated in the lives of the youth of the land there is little hope for the nation of tomorrow. Moral education that has as its goal the making of a life is to be desired above all else, in the schools of China today.

The kind of Christian education that will count above everything else, is the kind that will build upon the foundations that are already here. The ethical teachings of Confucius along with the teachings of the Old Testament should be regarded as preparation for a religion of life and vitality and power. It is in the New Testament teachings that men receive the power by which they may realize their ideals.

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VII

AMERICAN SOLDIERS IN FRENCH UNIVERSITIES

The American Army, during the difficult period which followed the armistice, tried an interesting educational experiment. The soldier was sent to school. It is the purpose of this article to discuss the part of the plan which concerned those men of college grade who were sent to French universities. While about six thousand went to Beaune, where an American Junior College was established, approximately the same number was sent to the regular universities. These men were carefully chosen and represented some of the best men in the entire A. E. F. They ranged from mature graduate students, some having the doctor's degree, and a certain number ranking as high as colonel, to younger college students, officers and privates. The largest detachment, nearly two thousand, was in Paris, but all the universities, except Lille, Algers and Strasbourg, had their contingents. The English universities were able to receive rather less than Paris alone, but those included in this allotment were reported to have done profitable work. It is a matter of interest to inquire the real educational value of this experiment. The men remained four months, from March first to July first. It was my fortune to be concerned in the planning of the work, to act as "American Dean of Paris," and to inspect what was done in nine of the most important universities. I gathered reports as completely as possible, was in close touch particularly with the situation in Paris, and shall try to sum up the results.

The students came from every walk of life and had every conceivable interest. A small minority was anxious mainly to escape from the daily grind of army life. They wanted to have more freedom and to amuse themselves. Probably this minority was smaller than the same type seen in every American university. The war sobered young men and those who presented themselves for study gave every appearance of seriousness, as evidenced by their attitude and their actual work. The opinion has been exprest that with the bar of a foreign language and with the handicap of an improvised course, the stay of our students was only four pleasant months spent in a college atmosphere without genuine academic profit. Such a view is erroneous. While men studied under certain obvious difficulties such as ignorance of French and the necessity of entering a totally different academic atmosphere from what they were accustomed to, the results were a magnificent justification of the generous opportunity offered by the army and placed under the direction of Dr. John Erskine, of Columbia University. It is extremely difficult to sum up what it all finally meant, because so much of what was attained was educational indeed, but extra-mural and because the work of the different universities was necessarily of varying value. Discipline was everywhere practically perfect and there was a minimum of disorderly conduct and living, especially in the quiet provinces. A great deal more profit was naturally gained in a place like Bordeaux where Professor Armstrong, of Princeton, with his knowledge of both French and American conditions, was able to place the men where they belonged, look after them and stimulate their attention in ways familiar to us, and smaller institutions where there was in charge only an officer unfamiliar with education and where the students merely followed lectures in the regular course and took extra French classes. Again the stimulus of the celebrated professors of Paris was a marked influence on our students. There were individuals who profited enormously. An American doctor in Toulouse, for example, with the laboratories and assistants of the university to aid him, and a vast amount of hospital material at his disposal, developed a method of closing wounds which had in some cases remained open for over a year. On the other hand, there were many doctors in Paris who had hoped to obtain highly specialized graduate work in their particular lines and who were totally disappointed.

The American, whatever his education—and unfortunately from the French standpoint our education is indefinite and rather slipshod—is behind no race in energy, resourcefulness and adaptability. He showed these qualities in this situation. The students were intensely interested in the life which they found around them. Quite different from the average "doughboy," enclosed in the rigid army system, the men made their rare chance worth while. They took the opportunity of three-day leaves and traveled all over France in an eager spirit of intelligent curiosity. They developed athletic, journalistic, theatrical and social life in their detachments and in the towns where they were. They raised large sums of money for good causes to show their gratitude to the French. A scholarship of a thousand dollars for one year was given to a French student in each university to be used for study in America. At Toulouse, law students carefully edited their notes and published them in French and English for the use of the whole class. The men entered into the life of the communities in which they found themselves in the most intelligent way. Nowhere were there difficulties with the population or the authorities. Innumerable friendships and many marriages were contracted. In Paris large numbers made application to stay overtime to finish special courses. Elsewhere many wished to remain for summer work. Nine out of ten testified to the students' committee that they considered their study a success.

With all this evidence, which could be largely extended, that the men were actively interested, it is still necessary to consider specifically the educational value of the army plan. In the first place the student body gained a practical and literary knowledge of French. Immersed as they were in the French atmosphere, living as most of the students did in good French homes, listening to three or even four sixty-minute lectures a day, they could scarcely escape learning the language. Everything about them spoke of

French history, art, politics. At the end, the majority could follow intelligently a lecture in French and carry on with more or less fluency a conversation. Many made phenomenal progress. One professor remarked to me that nearly every student in his university was regularly taking notes on the lectures in the month of May. In America we can scarcely hope to teach as much French in several years of class work as was easily acquired in four months by the soldier-students. In making this judgment I am guided not merely by such evidence as I have cited above. I judge from many visits to classes, from a class which I gave myself at the Sorbonne and above all from a mass of written reports made by the monitors of all the classes at the Alliance Française, comprising nearly a thousand students.

Apart from the question of pure language, there was much lost of the first days and even weeks of instruction. Nevertheless, much was done to forestall the difficulty. Interpreters were used in many classes. Much work was given, especially in Paris, in the English language. Professor Fernbach, of the Pasteur Institute, for instance, gave a well-appreciated course in biological chemistry (really a course in ferments) to a large class, using English entirely himself. Summaries were printed for all the nine special courses in the Faculty of Letters in Paris. In all the faculties there, the special courses met twice a week for lectures which were supplemented by a third hour in English for discussion of what had been already treated. In the provinces where fewer students could understand the language at the start, a month was given largely to a concentrated course in French for all who needed it. In Paris over half of the students carried a course in French, usually in conjunction with other work.

The series of special courses offered by the Sorbonne under the title French Civilization, and largely duplicated by the other universities, proved to be of the highest interest. It is worth noting that the Sorbonne has just announced that this unique series will be continued as a regular part of the curriculum, altho intended above all for foreigners. These courses were as follows: History of the French Language, Brunot; History of France, Guignebert; Old French Literature, Chamard; Classical French Literature, Reynier; Modern French Literature, Michaut; Geography of France, Herbette; Modern Ideas, Bouglé; Modern European Politics, Denys; History of French Art, Lemonnier. The summaries of these courses, varying from thirty to sixty pages weekly, were in the hands of all the students. Examinations, given in April and June, as well as résumés, called for three times during the term, showed that the instruction was intelligently followed. Reading was done in the Sorbonne Library, where there was an average attendance of forty students daily and six hundred and forty books were taken out during May and June. Naturally not nearly so much outside study was done as in American institutions where daily assignments are made and reading supervised with care. Besides taking such work the men spread thru the entire university and its allied schools and could be seen attending lectures in every imaginable subject.

Courses in science corresponded to those in letters. Laboratory work supplemented the lectures. When students could work under such instructors as Professor Fernbach, Professor Caullery and Madame Curie, not to mention others, their interests were well served. The students in science and engineering occasionally objected to the stress laid by the French on the theoretical side of the subjects. It is worth noting, however, that in a special advanced course in wireless telegraphy given to a group of chosen men from the signal corps, few of the Americans were quite up to the standard of the course, owing to their weakness in advanced physics and mathematics. Indeed, it is doubtful whether any were able to grasp all that the course involved.

The law course in Paris was of particular interest. It was taken by a hundred and eighty-nine mature men, most of them practising lawyers in civil life. Thirty of them altogether took thirty regular courses in addition to those arranged for Americans. Two men past the examinations for two complete years of French law. One article was written for the French law review. The law faculties in France are everywhere strong and in all the universities the Americans were imprest by the character of their instruction. In Paris the men were captivated, especially by Professors May, Berthélemy and Geouffre de Lapradelle, the latter advisor of the French government and formerly exchange professor at Columbia. In one course living questions were brought directly from the Peace Conference into the classroom. A monitor told me that the work of one of these instructors was so remarkable that it was the saying of the class that they would take work with that man in any subject and any language. The men stayed as a body to the end, past the examinations exceedingly well and were practically never absent, even when Métro strikes obliged many of them to walk three and four miles to class. What was remarked by the students was the integrity, the eager interest and the high intellectual quality of their professors. As the head monitor wrote, "Each one of us will return to the United States in a better condition to resume his work, a better citizen on account of broader vision, a better friend of France and the French people."

About two hundred men were enrolled in different businesses and social science schools of university ranking. The work was sometimes inappropriate to American needs, but all of it was suggestive and some of the courses were of high grade and even unobtainable elsewhere. One older man wrote of a certain course that if what was said there could have been appreciated in America, the egregious mistakes which he had himself seen American business men make in the Orient would have been avoided. At the *École des Hautes Etudes Sociales*, Professor Nogaro of Caen gave a course in Money and Exchange which is regarded by the authorities of the school itself as presenting a new and original view of this important subject.

Nearly fifty engineers were distributed in the *École*

Polytechnique, the *École des Mines* and the *École des Travaux Publics*. The criticism was sometimes made that the work was too theoretical, but most of it interested the men professionally to such an extent that they stayed to the end, finished their "projects" and applied almost in a body to remain after July first to finish. In some subjects the French who are beyond any doubt superior builders, have engineering work to show which can not be duplicated in America. The students were quick to seize upon such chances.

Music and art, as was to be expected, attracted many advanced students who profited by the unrivalled opportunities which the city of Paris offers along such lines.

An exception to the general satisfaction exprest by Americans is found in the medical work. There were nearly a hundred and fifty doctors in Paris. They were older than the rest, mature men, a large number colonels and majors who were already specialists. Most of them were weak in French. They came for strictly post-graduate work. Paris is at present poorly organized for such a purpose. The graduates are not separated from the younger students in the clinics and coordination between the different clinics is wanting. This condition is recognized by the French and plans are on foot for a reorganization of medical instruction. As a whole, the Americans were dissatisfied with the work in medicine.

In comparing the instruction in Paris and elsewhere it is clear that some of the universities were not equipt at all to handle the advanced students in all the lines of study desired. Laboratories were often small and poor Subjects were often demanded in which the instruction was either poor or altogether lacking. On the other hand there are found outside of the capital many young, ambitious men who are to be the professors of tomorrow in the university of Paris. At the same time one finds inevitably in Paris a good many professors of yesterday who have made a reputation in past years and whose work is no longer valuable today. The atmosphere of quiet study of a provincial university makes it an ideal place for all but the very advanced student. It is easier to get into close touch with the real French people and the professors are able to give more individual time and interest to their students than the well-known and intensely occupied professors of Paris.

It was clear to me as I studied the reactions of our students that their interest and enthusiasm were the natural results of certain inherent French qualities displayed at their best in the university instructor. The French professor is a genuine intellectual. He presents his subject with a seriousness and integrity necessarily impressive. He is not only a master of his subject, but also a master of the art of lecturing. Each lecture is a finished piece which stands out in the mind as a whole which can be remembered almost without an effort. There is no slipshod instruction permitted, no presentation of a mass of confused and uncoördinated facts. The exposition of a different point of view from our own in this clear-cut manner stimulated our students. They felt the broadening effect of such work and returned to America better educated men.

Before the war the French universities were rather inhospitable to Americans. Students found themselves in difficulties of red tape. It was hard to find and register for the work which they wanted. The professors did not understand them or the system of which they were the product. Today the American is known and liked. The French are anxious to furnish him with good university work and are well equipt to do so. The new course in French Civilization given in Paris by a group of the best professors is an excellent example. The administrations are ready to go half way to meet Americans and know how to help them to take advantage of what is found in each university. With their sense of order and precision, their love of clearness, their instinct for all that is artistic, their high intellectual gifts, added to their present understanding of Americans, the French professors have something to give to the future American student in France.

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VIII

AMERICANIZATION THRU BIOLOGY

America, the land of promise and opportunity, is also the land of work. From the memorable day of the landing of the Pilgrim Fathers down to the present time we have been notably a country of workers. The tremendous obstacles that have had to be overcome from the clearings made in the New England wilderness to the harnessing of our gigantic waterfalls to furnish the modern means of industry—electricity—have meant an unending stream of steady workers.

The brawn of muscle, the clearness of brain and the virility of this our youthful nation is a logical result, biologically, of the activity of the years of its existence. We know from a study of biology that every living cell the world over, plant and animal, is working all the time. When it ceases to work it ceases to be. The salient characteristic of living protoplasm is its functioning or the carrying on of its work. As a muscle works it grows; compare the arm of a blacksmith with that of a clerk; as a brain works it grows. America has owed its progress to the work of its settlers and their descendents and the hundreds of immigrants that have come in a steady stream to its shores. Physiologically there is no such arbitrary division as work for one-third of the time and rest for the other two-thirds.

These settlers first attempted to lead a more or less isolated existence in Massachusetts, Maryland, New York or some other state. The attempt proved successful for a while but the time came when cooperation and consolidation were absolutely necessary. From the union of the thirteen colonies to the present day we have repeatedly realized the fallacy of any state or groups of states or of individuals attempting to stand alone and exist. Their experiment would have resulted in decadence for themselves and a source of corruption to the nation. Tumor cells in plants or animals are abnormal cells that are leading an isolated abnormal existence. They may grow prolifically but they interfere with the normal growth of the adjacent cells and may so affect the functioning of the whole organism that death finally occurs. Let us illustrate with cancer. The only hope of saving the life of the body in which these cells are growing, is to remove them in the very beginning of their existence. America has guarded most carefully against any tumorous growths—figuratively speaking—that have appeared in her history. She has gone to no end of trouble and expense to facilitate a close cooperation and constant intercourse between her various parts.

Biology teaches us that a one-celled animal, the paramecium or slipper animalcule for example, is self-sufficient to a certain extent but there is a limit to this self-sufficiency. This one-celled microscopic animal can perform all the functions of a many-celled higher animal; it can move, get its food, digest it, assimilate it, eliminate its waste, breathe, grow and reproduce. In its simple method of reproduction, that of fission, whereby the mother paramecium simply splits in half horizontally and divides into two daughter paramecia again, it is self-sufficient; the asexual method of reproducing can go on for many generations. Careful observations, however, have shown that such isolation will lead to decay eventually. After about the two hundred and fiftieth generation of paramecia—which is reached in less than a year for a paramecium may divide as often as once a day under favorable conditions, the animals can no longer reproduce sexually; they have reached the limit of their self-sufficiency. But even paramecia know better than to attempt to live in an isolated state. It is only under the abnormal conditions of the laboratory where they are experimented upon, that they get even a chance to live this life of exile cut off from their fellow beings. In their normal surroundings they live in swarms; they touch one another on every side. Simple reproduction by fission occurs, but every so often there is interspersed the method of conjugation. By this method the nuclear material of two paramecia is interchanged to a certain extent and the two conjugants, after separating, go on each in its own way. They have gained in virility in their intercourse.

For many years much was written and said for the struggle for existence but it remained for later-day men of science to allude to the importance of mutual aid. We watch the bee or other insect gathering its nectar from the sweet-scented or beautifully colored flower but perhaps fail to realize that this bee on its part is rendering a most important service to this flower in cross-pollinating it.

Among animals there are numerous examples of this mutual aid. Beavers live in villages. When they wish to build their nests or houses they all help to dam the stream, thus forming a broad marsh or pool. In migration birds follow leaders who seem to discover the way for them. In all these instances there is evident also an attempt at division of labor and a definite organization. This organization and division of labor reaches a climax among the insects especially in the case of the bee and the ants. Here we have at least three distinct types of animals each with its own work to do; the males and females concerned with increasing the colony and the workers who do all the work of building and caring for the home and young ones, of collecting food and storing it, and of protecting the hives. Each kind of work is better done as a result of this division. Each goes about his work without interfering with the other. A highly specialized social life demands organization. Man exhibits the highest form of social development in the animal kingdom. Just as among the other animals we find some leaders and other followers, some directors and some workers, so in human society there must be different types of work; each of tremendous importance, but all necessary for the good of the whole. Biologically there can be no anarchy. There must be a centralized seat of power—the leader of the flock, the brain of the individual. The independence of the individual may be sacrificed but his social group can accomplish greater ends thru the mutual aid of its members. In fact the highly complex life of the very individual would be utterly impossible without the aid of his coworkers.

In the development of the biological world from simple forms of life to the highly complex ones there is abundant evidence to show that this development has been along the lines of a gradual evolution. There has been no revolution in the biological world; no cataclysm. Nature has gone on in an even, orderly fashion. The development of the political, social and industrial forces of our country have likewise been along the lines of evolution, not revolution. By such means only, can there be true progress.

Finally, if biology can get a chance to present for study the physical material of our nation, its wonderful resources, animal and mineral, the words of our national anthem will have a fuller meaning for our native or naturalized citizen:

"My country, 'tis of thee—I sing
I love thy rocks and rills,
Thy woods and templed hills."

How can he truly love what he does not really know?

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IX

REVIEWS

The doctrines of the great educators—By Robert R. Rusk, University of Edinburgh. Macmillan and Company, London, 1918. 294 p. $2.00.

This publication of Dr. Rusk is an interpretive exposition of the fundamental educational principles gathered from the writings of twelve great educators prominent in history thru their educational classics. To each educator is given a chapter. Thus the book contains twelve chapters as follows: Chapters—1. Plato; 2. Quintilian; 3. Elyot; 4. Loyola; 5. Comenius; 6. Milton; 7. Locke; 8. Rousseau; 9. Pestalozzi; 10. Herbart; 11. Froebel; 12. Montessori. With the exception of the great quintet including Plato, Quintilian, Rousseau, Pestalozzi, and Froebel, others might have selected differently; however, to the student of the history of education all these names are quite familiar.

Not every teacher is capable of reading an educational classic with profit, but the true teacher is always hungry for the best and is delighted to read and reread the classics which have shaped the thought and practises in human progress. Personally, I should rather read the classic itself and make my own interpretation, and for the majority of teachers I think that is the better plan. No teacher's library can be considered complete that does not contain a copy of Plato's *Republic and laws;* Quintilian's *Institutes;* Rousseau's *Émile;* Pestalozzi's *Leonard and Gertrude*, and *How Gertrude teaches her children;* Froebel's *Education of man*, and *Pedagogics of the kindergarten*, as well as the many other excellent classics suggested in the publication of Dr. Rusk. But all teachers would be strengthened by a study of *The doctrines of the great educators* and many will find it the most desirable means of approach to a study of the educational classics.

It is a difficult task to simplify, reduce, or add to the clearness of an educational classic. To become such the work must be epoch-making, clear, concise, inspiring, and within the easy comprehension of the people; otherwise it will not live and become a classic. Hence when Dr. Rusk tries to condense in a few pages the essential thoughts and principles which required a Plato or a Rousseau many pages in order to make clear, he has undertaken a task to be successfully handled only by the expert or skilled artist. He has, however, selected quite wisely his material, organized it into an interesting and readable book, held close to the spirit of the texts, gave a fairly clear analysis of the essential pedagogical principles, and in parts even added to the clearness of the original. Many would have appreciated the publication more had the author held closer to the language of the texts of the great educators and less to that of his own. The book will find a welcome place in college and normal school departments of education in courses on educational ideals and principles and educational classics. It will also be of aid to teachers desirous of becoming better acquainted with the fundamental principles upon which true education is based.

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Science and learning in France—With a survey of opportunities for American students in French universities. An appreciation by American scholars. The Society for American Fellowships in French Universities. 1917.

The title page of this impressive book describes the purpose of its contents, which is to present concretely to the American student the past accomplishments of French scholars in the various fields of science and learning, and to point out the opportunities for study and research that are offered in the several universities of France. The special articles descriptive of the accomplishments of French scholars under each subject have been written by American scholars, which for this particular purpose adds greatly to their value as an opinion from the side of those who are immediately concerned and for whom the information is intended. The book also contains inspiring introductory articles on The Mind of France, by President Eliot, and The Intellectual Inspiration of Paris, by George Ellery Hale; a most valuable statement with considerable detail by Professor Geddes, of Boston University, of the educational advantages for American students in France, together with a history of the recent changes in the university system; an extended article by Professor Vibbert, of the University of Michigan, on the French institutions of higher learning, their organization, degrees, requirements and fees, and a further one by the same author containing practical suggestions to the intending graduate student. The whole is, accordingly, a handbook, more complete and of much greater importance than anything hitherto available, for an understanding of the actual conditions of the higher education in France at the present time and their significance to the graduate students of American universities and colleges who are impelled, by reason of specialized work and the facilities offered by other than American institutions, to study abroad.

There can be, of course, no need of a brief for French scholarship. The pages of the present volume that treat in alphabetical order the various special subjects from anthropology to zoology, are alive with names with which everyone is familiar, from the pioneer scientific beginnings of the subject in question, where such names are astonishingly frequent, thru their whole historical development to the present day. The names, too, of the present workers in well-nigh all fields of science and learning with which the book is directly concerned are fundamental facts in the present status of the subjects under discussion, without whose citation they would be unintelligible in their progressive growth.

All of this abundantly justifies, if again such justification is necessary, the turning of the serious attention of our graduate students, to a far greater extent than has ever been the case in the past, to France as a place for special study and research. There are, however, other reasons convincingly presented in the book that make the use of the resources held out by the French universities desirable for the American student to avail himself of much more frequently and liberally than he has ever done before.

That our students have neglected France as a place for graduate study and have chosen instead German universities, has reasons that are not always perfectly understood. The German universities down to recent years, when on account of the increasing numbers of foreign students it has been found necessary in many cases to limit their attendance and to scrutinize more closely their claims to matriculation, have always been most hospitable to the American student. The lectures, laboratories and seminars at all German universities have been wide open to him, often upon extremely meager academic credentials, and no obstacles, except the reasonable ones of attendance and fees, have been placed in his way as a candidate for a degree, which regularly and usually has been the doctor's degree and most frequently that of Doctor of Philosophy. The well-defined educational system of the German universities commended itself, too, to the American student. As a method of procedure from immatriculation to promotion, as the German phraseology has it, it was logical and readily intelligible. The student who had earned his baccalaureate degree from one of the better American colleges was fairly qualified to enter upon the course of study, which it was easy to arrange for his progress thru the six semester sequence that normally led up to the writing of a dissertation and the final examination for the degree.

Another important reason why American students continued to flock to Germany was the vogue that had gradually arisen for such a practise. The attendance of Americans at the German universities began early in the preceding century. Edward Everett, Professor Geddes reminds us, was the first American to take the degree of Doctor of Philosophy, at Göttingen, in 1817. At this time, and for more than half a century afterward, it was necessary for the student of a specialized subject in very many instances to study abroad because of the lack of opportunity at home, and the German universities acquired a continually increasing prestige, both on account of the facilities offered for study and for the degree which it was readily possible to obtain for the reasonable completion of a not impossible requirement. When the writer of the present review went to Germany in 1878, it was not possible to study the subject of his choice to any ultimate extent in any university of the United States. It is not for a moment assumed that he actually learned his subject to an ultimate extent, but the opportunity was undoubtedly there, and not here, to do so. This necessity for studying abroad, which was once a real one, with the growth of graduate instruction in America has, of course, disappeared, and there is at this time no subject of study and research that it is not possible to pursue in an American university as advantageously and thoroly as at a German university, and the facilities for such special work are often even better in our own institutions than in theirs. Graduate study in Germany, which for the reasons stated began as a necessity, in its later aspects became more or less a fad, with the fetish of the Ph.D. degree, which had received a growing but largely an unwarranted significance in America, as its crowning reward inevitably behind it. The German universities reached their highest level of distinction in the seventies and eighties of the last century. Some of them, like Berlin, Munich and Leipzig, have grown since then inordinately in size, but the great names of the university teachers of that period have never since been matched, and it is quite safe to say in the light of the lasting effect of present conditions, will never be matched again. The great material interests that have revolutionized German life have drawn men away from university careers for greater emoluments and greater personal prestige. The old Germany in this respect, as elsewhere in every aspect of life, is only a memory that with the passing of the present generations will disappear forever.

The present volume admirably presents the case of the French universities. Down to the reorganization of education in 1896 they were not attractive to foreign students, who, in order to secure recognition as candidates for a diploma or a degree, were obliged to undergo the same training prescribed for French students. The educational act of July, 1896, authorizes the universities to award new degrees known as "University degrees," and in accordance with it they have created doctorates which are now liberally open to holders of acceptable bachelor's degrees from American colleges. These new degrees do not, however, in any way supplant the degrees conferred by the state, which are required as before of aspirants for public service in France. The university doctoral degrees in Law, Science and Letters are now bestowed by all of the fifteen universities of France with slightly different requirements, but under the same general conditions of acceptance to candidacy. Degrees in medicine, pharmacy and dentistry are still under state control alone, and no American substitute for the preliminary degree is accepted without special action by the Minister of Public Instruction. Neither the book itself nor this review of it means to make out a case for the degree as the paramount consideration for study at a French university. The admission of the foreign student into academic citizenship is, however, the important fact connoted by it, and that is now assured in all of the French universities on as liberal a basis as it is possible to bestow it.

The question naturally arises as, after all, the fundamental one, whether the French universities offer in any full measure the opportunity for study and research that the American graduate student should reasonably demand if he is to go abroad for the pursuit of a specialized subject. The present volume makes it unmistakably appear that there are abundant opportunities in every such subject for work of the very best kind. The choice of a university in France is, as it always has been in Germany, a choice of men and only secondarily of place, and, in settling upon the proper place to study, it will be the peculiar facilities for work in the particular subject in hand that will turn the balance as to whether the Sorbonne or one of the provincial universities is the one to be desired.

There is no question under the present conditions of the reorganized system of the higher education in France of the breadth and reality of such opportunities or of the hospitable attitude of the entire body of French universities toward the American student who desires to use them. And now that the glamor has past and we have learned in their effect the crass lessons taught by German Kultur, the French universities as places of graduate study will more and more come into their own as places of scholarly inspiration and of a real civilization that is not at the bottom an assumption and a gloss. We have been led to believe by Germany, as the Great Advertiser, of the supreme dominance of German science and learning. There is, of course, no reason to deny her just claims, and she has exercised in many ways an undoubted influence of value upon American scholarship. She has taught us preeminently the important lesson that we needed to learn of the painstaking exactitude of method that is characteristically hers, but our ready belief in her wide superiority has led us astray to underestimate the valid claims of other nations as efficient workers in fields where she has often been made to seem to stand alone. In looking back upon it, it is easy to remember that some of the instruction in the German universities was undoubtedly brilliant, but all of it was by no manner of means either in scholarship or teaching the superlatively best. It was not always inspiriting or inspiring. As an object lesson in persistence it was admirable, but some of it was unutterably weary and long drawn out. It was phenomenally industrious in the collection of material, but singularly deficient in mental alertness and too often devoid of inherent originality and constructiveness. In all of this it was wholly and characteristically German. The German mind is not an alert mind, and we have nothing to lose, but much to gain in exchanging for the plodding industry of German scholars the eagerness and alertness of the scholarship of France, with the clarity of statement that is characteristic of the French language as its mouthpiece. And another aspect of the matter that can not be too strongly emphasized in directing the attention of our students to France is the inherent sympathy that exists, and has existed from the early days of this Republic, between France and the United States. As has elsewhere been pointed out in connection with this movement, France, both politically and socially, is like ourselves a democracy, and the aims and the spirit of her universities and her scholars and the inspiration of her learning will be in close accord with our own.

In the printed circular letter that was sent out with the book attention is called to the fact that it is in no sense a pro-ally document, and that it was a mere accident of time that before it was completed this country had entered the war and had become an ally of France. The book has accomplished its real purpose of calling a dignified and convincing attention to the educational resources of France from the point of view of their recognition and use by American graduate students, and it has done this admirably and convincingly.

WILLIAM H. CARPENTER

COLUMBIA UNIVERSITY

X

NOTES AND NEWS

Promotion of teachers from merit lists

A plan for the promotion of teachers from merit lists is the subject of Bulletin XIV of the Department of Educational Investigation and Measurement of the Boston Public Schools. The rules of the School Committee of Boston, it appears from the pamphlet, provide that the superintendent "Shall, subject to the approval of the board, appoint, reappoint and remove all members of the supervising staff and teachers; provided that in the original appointment of subordinate teachers he shall consult the principal of the school or district, the assistant superintendent in charge thereof, or the director of a special department if the appointment is in that department." The necessity of some plan for promotion to positions of higher rank on the basis of merit, it is asserted, has arisen on account of the size of the public school system and the variety of ranks of teachers both in the elementary and the high schools. Because of the large numbers of teachers, too, who hold certificates from the Board of Superintendents making them eligible for promotion, it has become necessary to devise some plan for determining their relative professional worth.

The plan of promotion proposed involves making an accurate estimate of the work of candidates in their present positions, together with a consideration of the probability of success of such candidates in the positions which they seek. These ratings are to be secured from the assistant superintendents, whose functions are supervisory, and who may be presumed to be competent to judge the relative worth of candidates; and from masters who come into closest contact with the work of candidates. When such a plan is in complete operation, it is concluded, Boston will have applied civil service principles not only to the initial appointment of teachers to service, but also to their advancement within the service after appointment. This discussion of the matter, we are informed, should not, however, be viewed as final, but rather as a report of progress.

British educational mission

The report of the visit of the British Educational Mission to the United States, October to December, 1918, and a supplementary report on Women's University Education by Miss Caroline F. E. Spurgeon, after the lamented death of Miss Sidgwick, the only woman member of the Mission, is an interesting account of American educational conditions in the colleges and universities as they were observed in a two months' tour of the country, during which the Mission, according to the report, traversed 28 states, traveled about 8000 miles, and visited more than 45 educational institutions. The Mission, which, it will be remembered, came to the United States at the invitation of the American Council on Education, and under the especial auspices of its Committee on International Educational Relations, consisted at the outset of seven members who represented widely the institutions of higher education of Great Britain. The tour of the Mission was really a voyage of discovery. Its *raison d'être*, as is gleaned with some difficulty from the report, was the assumption that there will be in the immediate future a considerable flow of students and teachers across the Atlantic in both directions and that ways should be devised intelligently to promote it.

The report contains a survey of the journey of the Mission, in which each institution visited is succintly described. Under the head of some general impressions received, the magnitude and importance of the universities and colleges is noted. The Mission, it is stated, was imprest by the size and character of the buildings of all the universities visited, by their remarkably complete equipment in libraries and laboratories, and by the size of the teaching staff. It was also imprest, to use the word several times repeated, by the wide-spread interest in education permeating all classes of the community. "All these conditions," it is summarized, "make us feel very strongly that there is in America as much to attract the British student as can be offered by British universities to the American student."

The report suggests various ways of promoting the objects of the Mission, among them, that an American mission, similar to this, should be invited to visit Great Britain; that the interchange of students and teachers should be actively promoted; that traveling scholarships without delay should be provided; that a year-book of the British and American universities should be printed; and that summer courses for American students should be instituted in British universities as well advertised as are those of France. Lectureships on American history and institutions, it is also asserted, should be established in the universities of Great Britain.

The report gives in a few interesting paragraphs on administration, conditions of admission, and the college, some differences between American and British universities that it is well to have understood. The principal recommendation made by the Commission, and so stated, is that provision be made as soon as possible for the systematic interchange of students and teachers; and the opinion is exprest that in such an interchange, especially of the younger men and women, is to be found the most powerful aid toward a closer relationship and a better understanding between the two countries intimately concerned in such a result.

The supplementary report on women's university education by Miss Spurgeon is an exceedingly good characterization, and perhaps the very best within a short compass, of the conditions at hand in this particular phase of education in the United States. As in the main report of the Mission, the sense of amplitude of space in buildings and grounds is also noted specifically of the women's colleges. There is, the report states, furthermore, a sense of physical well-being and of every encouragement for it, a fact, the writer asserts, that very markedly differentiates American colleges and universities from those in England. The interchange recommended in the main report as an international matter is also warmly supported, but the writer sees certain other advantages that it is interesting to note. "As regards women," she says, "in addition to the advantages of an international kind already pointed out, we in England will be helped towards a higher standard of women's academic needs, we can study the results of a freer system of coeducation and social intercourse than we have as yet achieved, and we can gain much general inspiration by sending over our students and teachers to see for themselves the provision and the opportunities which America offers to women." The report as a whole is well worthy of attention, both as an interesting view from the outside of conditions of the higher education among us that have been appreciatively apprehended, and as an enthusiastic plea from what has sometimes been considered a conservative source for a better educational understanding between the two English speaking nations.

The junior college in education

The University of Missouri has issued as a Bulletin (Education Series 12) a Circular of Information to Accredited Junior Colleges which is interesting as a formal statement of the recognized place of the junior college in the scheme of education, and the conditions of a proper articulation with the high school below and the college or professional school above it. Until the last few years, to follow the report, no provision was made to include in the organization of a correlated system those colleges that give only a part of the standard course of college work. These colleges, however, if properly organized, as many of them are, to give such a part, in the interest of popular education should unquestionably become articulated with the educational system. The movement to require a two years' college course as a preparation for the work of the professional schools, which in turn has made a division in the normal four years' course of the college, marks, furthermore, a definite function for colleges which do not offer four years of college work. They can in this way logically give the academic preparation necessary for entrance to the professional school on the one hand, or, on the other, to the last two years of the college of arts and sciences.

The present report states in detail the conditions of accepted affiliation with the University of Missouri. In accordance with this arrangement, in order to be duly accredited, the requirements for admission to the work of the junior college must be equivalent to those of the College of Arts and Sciences in the University. If the institution maintains a preparatory school in connection with its college work, it must be approved by the university. The course of study must be two years in length, and the college year thirty-six weeks. For graduation, the student must complete sixty hours of work, which must be the equivalent of that required in the first two years in the College of Arts and Sciences in the University. The requirements also provide for an adequate and properly prepared teaching force, and for proper laboratory and library equipment.

An ardent dogmatist

It is not often that one picks up a book in the early pages of which the author is quite certain of so many things that are not so, as is the case of the volume entitled *The new state* by M. P. Follett, recently published in this country. The book is marked by an imperative and emotional dogmatism of the sort which all too frequently accompanies contemporary expressions of superficial thinking and writing on public problems.

From a few of the early pages of this book we cull these emphatic and unsupported statements:

"Group organization is to be the new method in politics, the basis of our future industrial system, the foundation of international order." (p. 3.)

"We have not even a conception of what democracy means." (p. 3.)

"The individual we do not yet know, for we have no methods to release the powers of the individual." (p. 3.)

"Representative government, party organization, majority rule, with all their excrescences, are dead wood." (p. 4.)

"Representative government has failed." (p. 5.)

On page 7 the author asks plaintively whether the dogmas advanced seem "mystical." The answer is that they are not so much mystical as foolish.

New president of the University of California

In succession to Benjamin Ide Wheeler, who retired from the presidency of the University of California in June last, the regents have now chosen David P. Barrows, Professor of Political Science and Dean of Faculties in the University of California. The new President was born at Chicago, Illinois, and is in his 47th year. He received his formal education at Pomona College, California, at the University of California, at Columbia University and at the University of Chicago. He spent nearly ten years in the Philippine Islands in the educational service of the government, and on his return to the United States entered the service of the University of California.

The *Argonaut* describes President Barrows as "in the best sense a man of the world, imbued with ideas and conceptions founded on a wide knowledge of men and things." The *Argonaut*, which always voices the best thought of the Pacific Coast, expresses its warm admiration for the independence and courage which President Barrows has already manifested in dealing with matters of university and public concern. He is quoted as having declared in a public address that "Berkeley is honeycombed with Bolshevism." If that statement is based upon demonstrable facts, the work of President Barrows is clearly cut out for him, and he will have the strong support, not only of California but of the whole country, in setting his hand to the job.

EDUCATIONAL REVIEW

FEBRUARY, 1920

I

TIME, SPACE AND GRAVITATION

By a characteristic stroke of journalistic enterprise, the London *Times* obtained for its issue of November 28 last, a short and popular description by Dr. Albert Einstein of the new physical theories that are associated with his name. We are glad to reproduce his article in full.

"I respond with pleasure to your Correspondent's request that I should write something for the *Times* on the Theory of Relativity.

After the lamentable breach in the former international relations existing among men of science, it is with joy and gratefulness that I accept this opportunity of communication with English astronomers and physicists. It was in accordance with the high and proud tradition of English science that English scientific men should have given their time and labor, and that English institutions should have provided the material means, to test a theory that had been completed and published in the country of their enemies in the midst of war. Altho investigation of the influence of the solar gravitational field on rays of light is a purely objective matter, I am none the less very glad to express my personal thanks to my English colleagues in this branch of science; for without their aid I should not have obtained proof of the most vital deduction from my theory.

There are several kinds of theory in physics. Most of them are constructive. These attempt to build a picture of complex phenomena out of some relatively simple proposition. The kinetic theory of gases, for instance, attempts to refer to molecular movement the mechanical, thermal, and diffusional properties of gases. When we say that we understand a group of natural phenomena, we mean that we have found a constructive theory which embraces them.

THEORIES OF PRINCIPLE

But in addition to this most weighty group of theories, there is another group consisting of what I call theories of principle. These employ the analytic, not the synthetic method. Their starting-point and foundation are not hypothetical constituents, but empirically observed general properties of phenomena, principles from which mathematical formulae are deduced, of such a kind that they apply to every case which presents itself. Thermodynamics, for instance, starting from the fact that perpetual motion never occurs in ordinary experience, attempts to deduce from this, by analytic processes, a theory which will apply in every case. The merit of constructive theories is their comprehensiveness, adaptability and clarity; that of the theories of principle, their logical perfection and the security of their foundation.

The theory of relativity is a theory of principle. To understand it, the principles on which it rests must be grasped. But before stating these it is necessary to point out that the theory of relativity is like a house with two separate stories, the special relativity theory and the general theory of relativity.

Since the time of the ancient Greeks it has been well known that in describing the motion of a body we must refer to another body. The motion of a railway train is described with reference to the ground, of a planet with reference to the total assemblage of visible fixt stars. In physics the bodies to which motions are spatially referred are termed systems of coordinates. The laws of mechanics of Galileo and Newton can be formulated only by using a system of coordinates.

The state of motion of a system of coordinates can not be chosen arbitrarily if the laws of mechanics are to hold good (it must be free from twisting and from acceleration). The system of coordinates employed in mechanics is called an inertia system. The state of motion of an inertia system, so far as mechanics are concerned, is not restricted by nature to one condition. The condition in the following proposition suffices: a system of coordinates moving in the same direction and at the same rate as a system of inertia is itself a system of inertia. The special relativity theory is therefore the application of the following proposition to any natural process: "Every law of nature which holds good with respect to a coordinate system K must also hold good for any other system K′, provided that K and K′ are in uniform movement of translation.

The second principle on which the special relativity theory rests is that of the constancy of the velocity of light in a vacuum. Light in a vacuum has a definite and constant velocity, independent of the velocity of its source. Physicists owe their confidence in this proposition to the Maxwell-Lorentz theory of electro-dynamics.

The two principles which I have mentioned have received strong experimental confirmation, but do not seem to be logically compatible. The special relativity theory achieved their logical reconcilation by making a change in kinematics, that is to say, in the doctrine of the physical laws of space and time. It became evident that a statement of the coincidence of two events could have a meaning only in connection with a system of coordinates, that the mass of bodies and the rate of movement of clocks must depend on their state of motion with regard to the coordinates.

THE OLDER PHYSICS

But the older physics, including the laws of motion of Galileo and Newton, clashed with the relativistic kinematics that I have indicated. The latter gave origin to certain generalized mathematical conditions with which the laws of nature would have to conform if the two funda mental principles were compatible. Physics had to be modified. The most notable change was a new law of motion for (very rapidly) moving mass-points, and this soon came to be verified in the case of electrically laden particles. The most important result of the special relativity system concerned the inert mass of a material system. It became evident that the inertia of such a system must depend on its energy-content, so that we were driven to the conception that inert mass was nothing else than latent energy. The doctrine of the conservation of mass lost its independence and became merged in the doctrine of conservation of energy.

The special relativity theory, which was simply a systematic extension of the electrodynamics of Maxwell and Lorentz, had consequences which reached beyond itself. Must the independence of physical laws with regard to a system of coordinates be limited to systems of coordinates in uniform movement of translation with regard to one another? What has nature to do with the coordinate systems that we propose and with their motions? Altho it may be necessary for our descriptions of nature to employ systems of coordinates that we have selected arbitrarily, the choice should not be limited in any way so far as their state of motion is concerned. (General theory of relativity.) The application of this general theory of relativity was found to be in conflict with a well-known experiment, according to which it appeared that the weight and the inertia of a body depended on the same constants (identity of inert and heavy masses). Consider the case of a system of coordinates which is conceived as being in stable rotation relative to a system of inertia in the Newtonian sense. The forces which, relatively to this system, are centrifugal must, in the Newtonian sense, be attributed to inertia. But these centrifugal forces are, like gravitation, proportional to the mass of the bodies. Is it not, then, possible to regard the system of coordinates as at rest, and the centrifugal forces as gravitational? The interpretation seemed obvious, but classical mechanics forbade it.

This slight sketch indicates how a generalized theory of relativity must include the laws of gravitation, and actual pursuit of the conception has justified the hope. But the way was harder than was expected, because it contradicted Euclidian geometry. In other words, the laws according to which material bodies are arranged in space, do not exactly agree with the laws of space prescribed by the Euclidian geometry of solids. This is what is meant by the phrase "a warp in space." The fundamental concepts "straight," "plane," etc., accordingly lose their exact meaning in physics.

In the generalized theory of relativity, the doctrine of space and time, kinematics, is no longer one of the absolute foundations of general physics. The geometrical states of bodies and the rates of clocks depend in the first place on their gravitational fields, which again are produced by the material systems concerned.

Thus, the new theory of gravitation diverges widely from that of Newton with respect to its basal principle. But in practical application the two agree so closely that it has been difficult to find cases in which the actual differences could be subjected to observation. As yet only the following have been suggested:

1. The distortion of the oval orbits of planets round the sun (confirmed in the case of the planet Mercury).

2. The deviation of light-rays in a gravitational field (confirmed by the English Solar Eclipse expedition).

3. The shifting of spectral lines towards the red end of the spectrum in the case of light coming to us from stars of appreciable mass (not yet confirmed).

The great attraction of the theory is its logical consistency. If any deduction from it should prove untenable, it must be given up. A modification of it seems impossible without destruction of the whole.

No one must think that Newton's great creation can be overthrown in any real sense by this or by any other theory. His clear and wide ideas will forever retain their significance as the foundation on which our modern conceptions of physics have been built.

A final comment. The description of me and my circumstances in the *Times* shows an amusing feat of imagination on the part of the writer. By an application of the theory of relativity to the taste of readers, today in Germany I am called a German man of science, and in England I am represented as a Swiss Jew. If I come to be regarded as a *bête noire*, the descriptions will be reversed, and I shall become a Swiss Jew for the Germans and a German man of science for the English!

ALBERT EINSTEIN

II

THE NEW PSYCHOLOGICAL TESTS: ARE THEY A SUBSTITUTE FOR CONTENT EXAMINATIONS?[1]

The powers that controlled this program have set a title for me against my wishes. When the question was put, "Shall psychological tests be substituted for content examinations for entrance to college?" I replied that I did not know the right answer, and hinted that nobody knew it! I engaged to speak on Psychological Tests and their Uses. It may be suspected that your committee sought to arouse an element of belligerency to make this discussion interesting. I will go as far as scientific conscience permits to aid and abet them, and affirm that an adequate psychological test is better, hour for hour spent or dollar for dollar spent, than the customary content examinations—provided an efficient inspection and rating of the candidate's secondary-school career is used also in both cases.

This is perhaps the real issue; for you are all perhaps convinced that the test of four years' life and work in high school is, when rightly evaluated, the main test of fitness to profit by higher education. At all events, I shall assume in what follows that the authorities responsible for admission have given a careful rating to each candidate in respect to his character and abilities as shown by his life for the four years past. In addition, there is to be either a uniform systematic examination of his scholarship by, say, the Middle States Board, or a systematic examination of his intellect by the same board in cooperation with, say, a committee of the American Psychological Association. Of the two I am willing to defend the latter.

I shall not, however, take much of your time for the defense, but shall spend most of our allotment in helping you to decide for yourselves by showing you sample parts of such a systematic examination of the intellect of a high school graduate as is now available, and in regular use at Columbia, Brown, Rutgers and other colleges.

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[1] A paper read befor the Association of Colleges and Preparatory Schools of the Middle States and Maryland, Philadelphia, Pa., November 26, 1919.

(Blanks representing about half of the Thorndike Intelligence Examination for High School Graduates, Series of Sept., 1919, were distributed. It is impracticable to reproduce these here, since they comprise 20 letter-size pages of printed matter. After the demonstration of the tests and certain discussion of them, which would be uninstructive in the absence of the tests, the discussion was continued as follows:)

What you have seen is a fraction of an examination designed to measure conveniently the intellectual status of American boys who have had a high school education. As inspection of it will show, the examination comprises two examinations of the type of the army Alpha, but extended and made harder, and two examinations of a different sort, including the tests which have been found by Haggerty and Thorndike to be specially indicative of ability to succeed with the work of a college or professional school. Test 7 of Part II is inserted for the particular purpose of doing justice to boys whose intelligence and experience have been directed toward things rather than books.

The examination is adapted to the intelligence level of high school graduates, and will differentiate such into at least twenty grades or degrees of ability. The score is determined by quality of achievement more than by speed, except in so far as the latter is an essential consequence or accompaniment of quality. In many of the tests of which it is composed, the score obtained by the candidate in the time allotted by the examination will be nearly or quite as high as he would obtain if given unlimited time.

The content of the examination will be different at each issue. That is, in June, 1920, one examination will be used; in September, 1920, a different examination; in June, 1921, a still different examination; and so on for at least thirty issues. A pupil who should be coached on previous issues of the examination would thus have only the advantage due to training in taking a wide variety of mental tests. Coaching will thus be unprofitable except in so far as it is truly educative. Each examination will be carefully standardized so that any one series will be closely equal to any other in difficulty. It can be guaranteed that the average difference in difficulty will not exceed $3^1/_2$ per cent. It will probably be much less than this.

Standard instructions are provided so that any college officer can give the examination, supervise the scoring and interpret the score. The tests themselves and the keys for scoring them will be so arranged that at least 80 per cent of the tests can be scored by any clerk, and the remaining 20 per cent by intelligent college juniors or seniors with a little supervision by some one person of good judgment. If enough clerks are put to work, any number of papers can be scored in a single day. The cost of scoring and recording with adequate checking is inconsiderable. The examination will require two hours and forty minutes of actual work and about 30 minutes more for fore-exercise, instructions and the distribution and collection of papers. Any number of candidates can be examined at one time, one examiner or assistant per forty candidates being required to distribute and collect the materials, announce instructions and the like.

It should be borne in mind that such an examination as this is not a collection of untried tests which psychologists merely think will indicate intelligence and fitness to profit by higher education. Almost every element in it has a long history of experimentation, checking of results and verification. The test with opposites of words, for example, is about twenty years old and has a record of uniformly high correlation with demonstrated intelligence. The test in supplying omitted words in sentences or paragraphs has a still longer history, and also one of undoubted value as evidence of intellect. The use of speed tests with easy tasks is not a caprice of the psychologist, but is justified by abundant evidence that, in general, the person who can do harder tasks, can do easy tasks more quickly.

The particular team of tests which you have examined has a considerable history of its own. In 1914 the writer was requested by the Carnegie Foundation to prepare a trial set of tests for students entering schools of engineering which might be standardized in respect to form, difficulty, administration and scoring, and which might be more a measure of the pupil's future promise and less a measure of his previous educational advantages than the ordinary entrance examinations. These tests were tried out in the case of freshmen at Cincinnati, Columbia and the Massachusetts Institute of Technology. Bulletin II of the Carnegie Foundation states that "The records of the thirty-four men tested at Columbia have been followed for three years. Five of the seven who stood highest in the test have received general honors, while four of the seven lowest in the test failed in more than half of the work and left school. The top seven all made more than 125 credits in three years, the middle seven averaged 92 credits each in three years, and of the lowest seven the two who did not leave averaged 56 credits in three years."

During the war the Committee on Classification of Personnel in the Army was assigned by the authorities of the Air Service the task of providing an examination for cadets to measure their fitness to do the work of the School of Military Aeronautics—the primary stage on the road to a commission in the Air Service. Among other requirements, it was imperative that the examination should be in so many alternative forms as to make unfair coaching profitless. The tests of the admirable Alpha Examination, devised by the Yerkes Committee of the National Research Council, were adapted to the requirements of the Air Service by extensive additions and by being made more difficult; and four new tests were added. The resulting examinations were stated by the military authorities to be an "almost indispensable aid toward the speedy elimination of what might otherwise have been doubtful and tedious cases." When Columbia College was beset by some ten thousand applicants for admission to the S. A. T. C., a modification of these Air Service Intelligence Examinations were used, partly because it could be given three time a day and the results known and used within a few hours. The resulting selection of students was satisfactory.

Such an examination is not a perfect instrument for measuring the intellect of a high school graduate. It has many limitations, notably its injustice to a youth who has applied his intellect with great specialization. This examination might well be supplemented by two other questions: "What is the thing you know most about? Show me how much you know about it. What is the thing you can do best? Show me how well you can do it." The interests of pupils of notable specialization must be protected in the case of any general examination, psychological or scholastic.

The exact value of the examination as a means of selecting those fit to profit from a college education can not be stated until four years from now, when the college careers of the men so admitted have been studied. However, it is a conservative judgment that a comprehensive intelligence test (1) is everywhere worth giving as an addition to a scheme of certificating schools, because of its definite measurement of the schools' product and as a protection against egregious, tho innocent, blunders. (2) It is worth giving as an addition to, or alternative to, examinations in the school subjects because it differentiates students who are of first-rate intellect but have been poorly taught and also students who are essentially stupid but have been enabled to pass examinations by the expenditure of much time or money or both. (3) It is worth giving in special instances where the Dean on Admissions Committee feels the obligation to be sure of exceptional promise before waiving certain requirements. Such cases can usually be settled in two minutes if a valid objective intelligence rating is a part of the evidence. The use of an adequate intelligence examination permits a liberal administration of entrance requirements without danger of injustice, sentimentality or bad effects on the morale of the secondary schools. (4) The investigations of Colvin, Terman, Thorndike and others give solid grounds for the expectation that the correlation between intelligence test and work in college will be closer than that between the ordinary type of entrance examination and work in college.

These facts lead me to think that, hour for hour or dollar for dollar spent, the psychological test for intellect is preferable to the conventional tests for scholarship.

The psychological test gives a somewhat broader and more thoro sampling of the candidate's powers. The difference may be illustrated by the case of a boy who, after graduation from high school, works in an office or shop for a year or so and then goes to college. He is probably better fitted for college, but is less fit to pass the conventional entrance examinations. The conventional test gives, in particular, a weight to knowledge of foreign languages and of mathematics out of proportion to their significance for success in college and professional work.

The psychological test measures the ability and promise of the candidate more, and the amount and quality of his schooling less than the conventional tests for scholarship. Educational advantages doubtless count in the former, and native ability counts in the latter, but, speaking roughly, the one tests primarily the candidate's own reactions to life; the other tests an admixture of these with the skill and assiduity of his teachers, the fiscal status of his parents, and the educational advantages of his community. The psychological test, for example, favors gifted boys with poor advantages; the conventional examination favors rich boys with gifted tutors.

The psychological test acts more positively to select for ability. It advertises the fact that the college will concede to intellect. The conventional examination acts too much negatively, forbidding or at least delaying entrance to those who lack this, that and the other special ability. Even the short experience at Columbia College seems to prove beyond question that gifted youths whose college education is desirable in their own interest and for the common good will enter college by an intelligence examination who could not enter college by the content examination of the Middle States Board.

The psychological test is more business-like and efficient. The psychological examinations can be given everywhere, at any time, by any trustworthy person, and a report can be made on a thousand cases (or a hundred thousand, for that matter) in forty-eight hours. If a candidate has scarlet fever in June and influenza in September, his admission to college by the conventional examinations may be delayed a year. A candidate makes four trips in four successive years to some examination shrine at fixt dates at great expense of time and money, and still greater expense of worry to himself, his parents and his teachers. He waits weeks or months after each pilgrimage for a report of the will of the god. The deity is so capricious that, even in so definite a subject as algebra, an excellent teacher in an excellent school with long experience in placating the deity, may still find in one year five pupils failing out of ten that he knew were fit to pass.

More important than these matters of protecting the interests of higher education and saving time and money for candidates, is the matter of the effect upon the instruction in secondary schools. A test may be admirable as a selective agency but defective or even injurious as a directive force upon teaching.

It is commonly claimed by high school teachers that they have to sacrifice the real education of their pupils in order to prepare them for the conventional content examinations, and that these examinations are definitely a hindrance in the way of what they think best for culture and discipline. I am not competent to judge this claim. Whether the burden is real or imagined, it would seem to be wise policy to leave them free to do what sound theory and practise direct for secondary education, and then hold them responsible. So long as they think, whether correctly or incorrectly, that they must sacrifice real values in order to present fitting sacrifices to some examining Moloch, there is friction and lost motion. The psychological test specifically leaves the secondary schools free to teach the school subjects in the way that they think best for pupils and the general welfare.

I have fulfilled my promise to defend the cause entrusted to me. Is there, however, any need for present decision? You do not need to set either above the other; you may simply permit a student to enter if he can either pass the conventional content examinations or demonstrate the possession of intellect such as deserves higher education, and test the results for five or six years. Among those who have made a thoro study of facts, all are, I think, agreed that a well-designed battery of psychological tests deserves a trial on even terms with the traditional entrance examinations—and that is all we ask.

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III

IS GRADE TEACHING A PROFESSION?

This article may possibly seem to the reader to be somewhat pessimistic over present conditions in grade teaching and also over-critical. However, a little honest pessimism helps us keep our feet on the earth when we tend to grow over enthusiastic about the "great things being done in education." But the writer is at bottom not pessimistic about the future and if destructive statements occur, constructive propositions will follow.

The following statements are made upon the basis of purposeful observation of a direct nature as instructor in psychology in a Normal School. Also observations of conditions outside of school have suggested and supplemented those gained from direct school work. The sum total of experiences has led the writer to look at grade teaching and grade teachers of the present in a rather unfavorable light, especially in the smaller towns and rural districts. Is there such a thing, at present, as a grade teaching "profession?" Can we ever have a grade teaching profession in any real, serious sense of the term?

As the lawyer, doctor, or dentist goes up the street of the town he is looked up to by all. Each is a man or woman of high esteem in the town or community. But the grade teacher goes by and such is not the case! Why is this? Why does not the first grade or fifth grade teacher, *e. g.*, receive this homage from the town. Rather, the staid, substantial business men of the town regard her, while an essential part of the educative system, yet as a mere person of no consequence outside of the little classroom. She (once in a while, he) is a simple, harmless character, necessary to society it is true, but of no social, economic, or political importance! The writer believes that this attitude held by the influential men in public life toward the grade teacher is not without good cause. It certainly constitutes an argument in general against grade teachers being professional in any serious way.

If we would turn to causes and study the present and past situation the above attitude is easily accounted for. In the first place, persons in the grade teaching profession actually do not play any part in the vital life outside of the schoolroom. There are three reasons for this. First, the teacher in the grades has been an inferior product intellectually as compared with those in other professions. Teaching has been the line of least resistance and open to anyone. Low standards and poor pay have not attracted the strong, genius characters into grade teaching. Again, most teachers work during the evening and are so tied down that they have little time to spend out in the general political, economic, or social life. This is true of the real teachers, the others do not count at all. Last of all, the men have practically left the teaching profession.

This last point needs further elaboration. Women make themselves less well known to the community than do men. Men naturally drift to some participation in world or community affairs more than do women. This is partly a matter of inclination and partly a matter of necessity. Also, it must be pointed out, however unfair the fact is, that professional men do not respect a profession made up of women.

It is nothing short of a calamity that men have left grade teaching. Grade teaching is now almost completely monopolized by the female sex. The prospects of getting the men back are poor indeed, especially in the very near future. The writer believes that strong, good women are needed in the education of boys and girls. He also believes that strong, good men are of vital necessity. Especially if we would hold our boys in school must we have strong men teachers. The man can give the boy that companionship and direction no woman can give. The writer knows of a number of cases, and doubtless the reader can multiply them, where boys and girls have gone thru eight grades of school work and even thru part of high school without having had one male teacher. But regardless of this calamity, the fact that men have left the work has tended to lower that work and the workers in the estimation of the public.

In the second place, we must not forget that the business men and even the successful professional men have never seriously regarded the educator even in higher education. This has been partly due to facts mentioned above and also to conditions to be stated farther on. However, it is also due to the fact that in America our standard of worth has been a money standard. He is worth noticing, he is important who possesses a brown-stone front and a million. Judged by this standard the teacher is an out-and-out failure. The writer has yet to meet the teacher who can rival Carnegie, Morgan, or Rockefeller. What grade teacher can compete with the dentist, lawyer, or doctor, or business man in accumulating money? That this standard still holds good in our country and is applied in the community estimation of individuals goes without saying. Suppose your humble eighth grade teacher of fine ability and years of experience walks into the entertainment of the Four Hundred. Will she be regarded with admiration and respect? No grade teacher would like to run the risk. The teacher is not to blame for this above-mentioned condition. Our narrow, undemocratic, low, material ideals are responsible for it. Happily, these conditions are changing.

But let us spend no time placing the blame for the lowly position held by the teacher upon the public. Let us not condemn the materialism of that public but rather look to our own house and see if it be in good order.

That men have left the grade work and the teacher has led a secluded life, we have mentioned. The fault lies ultimately with the public. However, if we note further we will find other bad conditions. As one looks back over the past years one is literally apalled by two facts. One is that we have sent out untrained teachers. The other, and worse fact is that these teachers have been mere children. Both conditions are due to the low standards held by the public and the poor salary, one is tempted to say wages, paid. The public has got just what it consented to, namely, inefficiency.

Young girls, from sixteen to twenty have gone out to teach, to take charge of, to guide in the development of young children. The hardest teaching position in our whole educative system is in the grades and yet anybody can teach in the grades. Mere children can teach in the grades. These conditions are not done away with yet by any means. What position in the land could be of more vital importance than that where the guidance and development of children is concerned? Somebody's children have had to suffer and are suffering today. But aside from this bad condition, how can we expect our successful, matured, business men to regard these mere youngsters seriously as professional men and women? It certainly strains our imagination to the breaking point to conceive of them as professional people.

No profession would permit such immature minds into its folds. But there must be added the fact that these teachers have been poorly trained. No real profession would admit such untrained individuals! No teacher is fit to be considered seriously as a teacher who has not had a four-year normal school course or its equivalent. Happily, these conditions are growing better. But if we remedy or change all the conditions mentioned above which go to make the grade teacher but a small figure in the town or city or country, is it really possible to consider grade teaching as a profession? Any true profession involves, first, years of preparation for that work. Second, any profession places emphasis on intellectual processes. Many who would be successful at a trade would never become proficient in a profession. The profession involves a definite field of knowledge to be mastered. It involves a careful technique of application or practise. It involves, not mere rule of thumb procedure, but procedure and explanation of difficulties on the basis of fundamental underlying scientific principles. Any profession demands high standards of entrance and a certain maturity and ability.

Let us look at the grade teacher and grade teaching situation as they are now and measure them up to the conditions set above. Differing from the high school, or other higher institution teacher, the grade teacher is not a specialist in any field of knowledge. She is a "Jack of all trades and master of none." She must teach thirteen or fourteen common branches. Any one branch in itself, if really mastered, would be a big enough field to keep one busy a lifetime. But perhaps it will be said that in grade teaching "you teach children first and a subject second." Granting all this, the fact remains that this very thing makes us strain a point to think of the grade teacher as a professional woman. However, the writer can not agree with the past prevailing sentiment which has emphasized methods and neglected scholarship! Will a teacher with teaching ability be less a good teacher because she is a specialist? When one specializes they usually specialize in the work that is near and dear to them. This is the first essential to a good teacher! The writer believes firmly in departmental teaching—it will raise the position of the grade teacher and raise the efficiency of the teaching.

One of the poorest (in scholarship) persons the writer has known of in normal school took up a district school and the district considered her one of the best teachers ever in that district! This is either a reflection on the intelligence of the community or else a proof that scholarship, brains, is not necessary in grade teaching! In either case it does not help to make us consider grade teaching as a real profession.

At the present time the normal schools are the training schools for grade teachers. The normal schools are at present receiving and graduating persons (mostly girls) who are very young. Years ago the students were much older and for the most part men. They were seriously in educational work. Now all is changed. We are preaching deep educational philosophy to these people who have insufficient maturity and background of experience to assimilate it. They are exposed to a wide range of methods which the writer believes often takes little effect. Their understanding of psychology and biology, the most important sciences upon which their work depends, is woefully weak and their ability to apply it is weaker yet. Psychology is still mental philosophy, rather than an experimental science as is chemistry or physics.

Scholarship is a secondary consideration as far as mastery of subject matter is concerned. Methods are all important! The university today emphasizes subject matter and the normal schools emphasize "how to teach it." The "it" is often very weak. Due to the struggle to keep up attendance and due to the many calls for teachers from districts that will take almost anyone, the prospective teachers are little weeded out. The normal schools stress heavily the educative function of the school and pass over lightly the selective duty. But the normal schools are merely giving the public what the public seems to like, or at least consents to.

Another fact that has forcefully struck the writer's attention is this. Many of our normal school graduates are not heart and soul interested in teaching. A lecture on educational methods in which the students did not have to attend would be poorly attended indeed! The speaker would address a vacant room. Is this a professional attitude? Of all things in the curriculum, methods are the most despised by the student. Is this professional spirit? Many girls are sent to be prepared for teaching who are sent almost against their own desires by their parents. Many are indifferent—teaching is a line of least resistance. These things merely indicate what constitutes our grade teaching force. Again, our teachers rove about and many of the women stay a few years in the work and then get married. All this tends to make the so-called grade teaching profession rather questionable as a true profession or at least makes it occupy a pretty low position.

So far our paper has been destructive, emphasizing factors which have been responsible for our grade teachers occupying such a low position in the eyes of the community and stating reasons why we seriously question the advisability of calling grade teaching at present a profession. However, the future for education and the teacher seems brighter. Briefly we would indicate a number of conditions up to which the teacher and public must measure if we are to seriously consider grade teaching as a profession.

First. We must lay more stress on scholarship than we have done in the past. The old view that it does not take any brains to teach in the grades is a pernicious one and the view that a good student will be a better teacher than a poor student must be emphasized.

Second. Communities must pay high salaries and then make stern demands as to qualification on the part of the prospective teacher. The unfits must be weeded out. At present the system is full of misfits, especially in the rural districts.

Third. The normal schools must consider themselves selective as well as educative agencies. It is their duty to weed out the unfit. Normal schools will do this when they are rendered more independent financially by the state so that they will not have to regard every student as necessary to their existence.

Fourth. Specialization, the mastery of a field of investigation, of knowledge, is a necessity to any profession. Departmental teaching will bring the grade teacher more into esteem and help weed out the unfit. Just how this can be realized in the country the writer is not sure. Unless consolidated rural schools can be actualized as the initial step little can be done.

Fifth. It seems almost a necessity to draw an age limit, say twenty years, as a minimum. It is criminal to send out mere children to teach younger children.

Sixth. Men must be coaxed back into grade work. The men will come back only if you pay them the price. Give them what they can earn in business or the other professions and they will come back.

Seventh. Teachers must take on a more professional attitude, not regard their work as a mere makeshift for something better. The writer can point out many teachers whose library of professional books can all be put in a small table book-rack and whose magazine reading is so little as to be insignificant. Can such persons be considered as professional?

Eighth. Teachers in the grades must mix more, participate more, in the big things of their community. As long as they lead a life of seclusion they can not be looked up to by the active people of the community.

To the extent that teachers approach these conditions they can lay claims to being in a profession of a high order. They are not within cannon shot of these desiderata at present and the writer does not hesitate to reserve the term, profession, for those in higher educational institutions. What changes will come about in the future we do not know. Certainly many obstacles stand in the way of bringing grade teaching up to a real, efficient standard of a true profession.

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IV

EDUCATION VERSUS APPRENTICESHIP

As the world now enters on the reconstruction period, we find in our own and other countries the same influences at work undermining education which have grown and gathered strength during the present historical epoch, loosely called the scientific age. The net effect of these influences may perhaps be best described by saying that they have substituted apprenticeship for education. In the great and thickening battle to preserve true education, teachers of the classics are holding the front line trenches. They have been under direct fire longer than those who teach pure and applied science. It has only been an occasional shot that has taken effect among the latter when perchance they have revealed their alliance with the former by presuming to teach something admittedly essential to science but only remotely applicable to the blessed art of getting rich.

From the standpoint of education and apart from contemptible department booming, the science teacher has common cause with the teacher of literature and arts tho the former unfortunately and to his discredit has often appeared to be the arch-enemy of the latter. In taking the false attitude of opposition to the so-called cultural subjects in general and to the classical languages in particular, the teacher of applied science has brought disgrace upon his specialty. Science is really nothing more nor less than the great contribution made by the modern age to culture. It is not sordid in itself but is too often made so by the narrowly utilitarian motives with which it is pursued. The technical student passes judgment on the subjects prescribed by his curriculum and studies or neglects them according to the immediate pecuniary value he deems them to possess. In this instructors too often give him moral and even active support. The baleful effect of making crude standards of utility the common measure of all values intellectual, social and moral and of keeping the mind centered on the selfish economic purpose of education during the whole period of student life is only too evident in the citizenship of our technical graduates.

The enemies of true education—the education which brings out that supremely real but almost indefinable thing we call personality, giving it speech and utterance—the education which enables a man to join the historic past in vital union with the present, to add his own original contribution, and then to communicate the unique product to his fellows and to posterity—the education which at once secures maximum economic efficiency, in the larger social sense, and in the long run maximum economic efficiency, in the individual sense—the enemies of this education are those who consciously or unconsciously, by word or by deed, support the apprentice ideal of education and aid and abet the atrocious process of economic pre-ripening which is becoming more and more distinctly characteristic of our schools and colleges. This false and sordid education debars the individual from a world which is the common right of all—a world where complete possession does not mean exclusion and where the possession of the same treasure by many only makes the personal possession of each richer and more complete. This world of magical economics is the world of appreciation. Exclusion from this restricts a man's capacity for happiness and turns him from socially beneficial pleasures to the sensuous and wasteful pleasures of luxury. It makes his response to the best elements of his spiritual environment heavy and slow—without that transfiguring touch of emotions and enthusiasm which lights in the souls of others the fire of aspiration. Being unable or too preoccupied with things crudely material to assimilate the living past in which the present has its roots, his mind is cut off from its proper source of nourishment, his personality is stunted, and his opinions outside of his specialized profession hang on the tree of contemporary thought not like its wholesome fruit but like parasites fed only by the ready-made sap of the parent stem and the malarial vapors of prejudice which infect the air.

Great as is the social loss which this one-sided economic education entails by the incomplete development of personality there is another whose immediate effects are much greater and are visible on every hand. This is the loss of the power of self-expression—the power of one mind to communicate its own thought to other minds. This loss is more immediately serious because even the most exclusively technical education does not destroy personality; it merely leaves it to a wild haphazard growth. The grade of intelligence required to successfully pursue the rigorous specialized discipline of our technical courses is usually associated with personality initially strong. To a relentless selection rather than to their education is to be attributed the fact that our engineers as a class are men of remarkable ability and personality. But you need attend the popular lectures of only a few of them or read their writing to see how very deficient even the ablest of them are in the power to express and communicate thought. There are, indeed, occasional exceptions but they are rare. The personal touch is, of course, deliberately supprest in technical writing. It is in civil life that the engineer shows his deficiency in power of expression most clearly. The social loss is great. Here is a large group of men whose intellectual endowments fit them to be potent factors in civic as well as professional life, but as a class they can not express thought so as to make their influence effective. A protest against the narrow specialization and neglect of culture which is responsible for this grave deficiency has recently come from a most unexpected source. It is in a letter from the President of the Committee of Ironworks of France to the Minister of Education and is quoted in Bosanquet's *Social and International Ideals*, pages 36 to 39.

The case of the engineer is typical. We are living in an age which, tho all too vociferous, is essentially dumb.

Speech there is but there is little utterance. We have words "full of sound and fury signifying nothing." There is much abusing of the king's English and presumably also of God's patience but each grain of wheat is hidden in a bushel of chaff and like Gratiano's reasons it is often not worth searching for. The student comes from the high school to the college unable to get at the central point of his own thought and much less able to hold the essential in the focus of attention when he speaks or writes. His mind is a jumble of disorganized facts and principles. In the kinetic theory of gases it is necessary to define a state of "perfect disorder." To apply the theory of probability, we must assume that the molecules are moving in an utterly lawless, haphazard way. I doubt whether this ideal state of disorder is ever realized in nature, but I often think that we have only to consider the mental state of the average student to find an exact psychic counterpart of this "elementary chaos."

How has the apprentice ideal accomplished this? What are the more immediate causes of this lack of power to organize and express thought? There are two which far outweigh all others and these two represent exactly the effect of the advantages so far gained by the assailants of the classics. First, classical education has been so discredited in the public mind that it can no longer give those benefits which can only be derived from a discipline carried on continuously and over a period of years. Continuity is essential and length of the period of instruction, the very point which has aroused most criticism, is equally essential. Without the classics secondary education is a structureless, gelatinous mass lacking so much as a semblance of definite form or unity. Mathematics, indeed, is a continuous discipline but alone it can not save the day for the high school course. The second cause is the fact that much of the science which has been substituted for the classics is really beyond the grasp of minds in the high school stage of development. The effort to substantiate the claims of high school science to a real disciplinary value, which science can only possess in its higher forms, has resulted in an attempt to conceal its disconnected and essentially descriptive character by meretricious, experimental adornment. This kind of experimentation tries to usurp the dignity of research. We used to hear ridiculous boasts of this kind, "Our pupils rediscover in the laboratory the elementary laws of nature." Now even if the vagaries of the so-called inductive method have been abandoned, the spirit of this fallacy still prevails, and to see its utter hollowness we have only to contrast the attitude of a trained scientist toward an experiment with that of a high school student. The former is working by trial and error to find out something he does not know, and his errors teach him as much or more than his successes. He is literally asking a question of nature. The latter is simply adding visual evidence to something which appears self-evident to him or demonstrating some more abstruse law stated ex cathedra in the textbook. The difference is one of essence not degree.

The unifying principle of the physical sciences is the doctrine of energy, but to accomplish any real unification on this basis requires the differential equations of rational mechanics and the calculus of probability. Only the graduate student of the university can achieve this unification. The unifying principle of the biological sciences is the doctrine of evolution, but it is only by the aid of comparative anatomy that its unifying power can be realized. The so-called social sciences—economics, political science, sociology and the like—borrow from the biological sciences their principle of unity in the shape of a metaphorical doctrine of evolution. To build even an insecure foundation for these great ideas requires a rigorous college course in science as a minimum. In a high school course only the pretense of a foundation can be laid. The doctrines must be taught, however, and their unifying power indicated if the facts of science are to be connected by anything more than the formal bond of pedagogical correlation.

Furnished with doctrines beyond its comprehension, the active young mind at once conceives that it has the key to the universe. However carefully the conscientious teacher may guard against it, a conceit of knowledge without its reality is at once bred. If such a student continues his education after high school he is impatient of details. The great all-embracing principle is enough for him and this attitude is often his undoing. Besides this he undertakes his college science minus the zest of novelty. High school science is thus a hindrance rather than a help to college science. If the boy goes to work after graduating from high school in the scientific course, his mental situation is even more pathetic. He finds that his deductions from the great generalizations he has learned constantly play him false and break down under the mildest criticism when he bases his serious thoughts or conversation on them. He talks in large and vague generalities which do not have even the doubtful merit of glittering. On his mind, hazy before, there settles an obscuring fog. When he tries to express himself, you see a mind stumbling over a fact here and clinging for support to a generality there, completely lost and confounded. If such is the plight of the thoughtful high school student whose mental furniture consists of the material of the high school science course, what must be that of the less reflective? After a few unsuccessful attempts, such a student will not even try to think.

I lay emphasis on the case of the thoughtful student—and this species, rare tho it is, has not as yet become entirely extinct—because the objection may be raised that the real cause of this mental confusion is the fact that the influences which prevail in the public schools are such that no one can there achieve the most rudimentary organization of thought, and that classics or no classics the result would be the same. The objection does not hold. In spite of weekly dances and daily distractions, there will be thinking if the subjects presented require thought within the students power and do not afford that abundant opportunity to get by with a makeshift for thought which so much of the work in science freely offers. Cure all the diseases which afflict public education, and mental confusion and lack of the power to express thought will remain unless the classics are reinstated in the position which is rightfully theirs.

Another objection to the claims we have made for the classics may be raised by saying that since there is no such thing as mental discipline, the statement to the effect that the classics supply a continuous mental discipline is meaningless. It seems to me that we are justified in retaining this much-cudgeled term unless it can be proved that the mastery of one subject in no way whatsoever facilitates the conquest of an unrelated subject. Now writers on educational psychology admit that by learning well one subject you are rather apt to get an ideal of systematic orderly procedure which will be of great assistance in studying any other subject. Then it is admitted that one subject may really help in an unrelated subject. We believe from observation and personal experience that this help, however it may come, is exceedingly important, and that the mental discipline derived from the classics can be acquired in no other way. A very eminent English scientist, I think it is Karl Pearson, says that his first idea of scientific order and symmetry was derived from the study of Greek grammar.

The translation of Latin and Greek is the exercise par excellence which will teach one to express thought. No other exercise, the translation of modern languages or even theme writing, can compare with it. Translation of the ancient classics is a real creative activity. The remoteness of the thought and language makes it so and the elevation of the thought makes it so. The classics were written at a time when not every one who happened to be seized with the fiendish impulse to shed innocent ink could get before the public. Furthermore, what was written has been subjected to the relentless selection of time. To translate an ancient classic is to re-think the author's thought. Here the student must weigh the words and get an insight into the expressive power and flexibility of his own language. Here if anywhere he will begin to see the difference between adequate and inadequate expression.

I believe that right here the teacher of the classics has an opportunity to develop literary taste and judgment far greater than is afforded to the teacher of English by any subject in the English course. In studying an English classic the student either appreciates the felicities of expression or he does not. You can hardly disfigure the passage for the purpose of letting him see by contrast its perfection. Again in theme writing after grammatical errors are weeded out and some rational sequence given to the thought, what more can be done? The thought is too trivial to permit any elevation of diction. Such elevation would be a defect rather than a merit. But in translating Virgil or Homer many versions can be given and the varying degrees of dignity readily compared. Translation of such authors faithfully done is about as near as we ordinary mortals ever come to the creative activity of composing poetry. Macaulay says of William Pitt, the younger, "His practise was to look over a page or two of a Latin or Greek author, to make himself master of the meaning and then to read the passage straight forward into his own language." Referring to this practise of Pitt's, Lord Rosebery says, "It was to these lessons that he always attributed his ready copiousness of language."

But some one will say that a number and perhaps a large number of our high school students would be entirely unable to stand such a discipline. We can but reply that this is only too true. The idea has crept in and seems to be gaining ground that our educational institutions of all grades are a suitable refuge for the incompetent and defective. These are carried along from stage to stage by a mechanical system of grading which seems to have been conceived with the deliberate purpose of making genius indistinguishable from feeble-mindedness. These weaklings, of course, can not express themselves. We do not claim that the classics are a cure for aphasia. We do claim that the competent should not be deprived of opportunity to develop their powers because the stupid have no powers to develop.

True democracy requires that the capable and incapable alike have equal opportunity to develop all the powers with which nature has endowed them. It does not demand that the incapable shall be put on a fictitious level of equality with the capable nor that we shall employ the process of unnatural selection—selection of the worst—which by the suppression of natural superiorities is the one sure road to social degeneration. This is not democracy, it is bolshevism. The deliberate attempt to avoid any real differentiation of intellects in the public schools results in positive injury to both the able and the stupid. It is trying to hit with one stone two birds whose distance apart is much greater than the greatest dimension of the missile.

Let us summarize in matter and implication the position here outlined. We regard science as an important part but not the whole of education. The process of economic pre-ripening is subversive of anything, worthy of the name of education in the college, and it defeats its own end in the high school. Here science is made the instrument of this process by grossly exaggerating its economic and survival value. This fictitious valuation is based on several facts and fallacies. First, the enormous prestige science has rightfully acquired by enabling man to control his environment. This control, however, has been achieved by applying its principles piecemeal, on the basis of a division of labor so minute that while it is highly desirable for the individual to have an intelligent comprehension of his own work and that of his fellows, this, except in the case of a few directors, is as unnecessary as it is for the private in a great army to understand grand strategy. Second, the fallacy of attributing to high school science values which can only come from a highly specialized, technical course in a university. And third, the tendency which so many people have when the value of high school science is questioned, to unconsciously try to imagine the sorry condition their minds would be in if all the facts and principles stated in elementary textbooks were absolutely unknown to them.

I have heard men argue as if they believed that, if he had not studied the law of gravitation in school, an intelligent boy might climb a tree and then saw off the limb which supported him at a point between himself and the trunk. The fact of the matter is that with the exception of the elementary laws of hygiene no part of science has a survival value in the strict sense of the term. The savage gets along with his environment by instinct and often better than his more sophisticated civilized brother.

We must find time for education. Throw out the wads of educational excelsior from the science course. Reduce the time now given to modern languages. With the time thus saved devoted to the classics, the courses in English languages and literature will not be the sterile things they now are. For any real study of English, even in the high school, the classics are an essential prerequisite. It is also highly probable that with the classical foundation securely laid, as much progress can be made in the modern languages in one year as we now make in two.

The whole position held by the hostile forces ought to be systematically examined. To make such examination thoro in so large a field, division of labor is essential. The public now under the spell of a scientific age, should be enlightened as to the real and deplorable losses which present practises and tendencies produce. The shallow articles attacking classical education which appear from time to time in the public prints should be answered. I think that a movement thus undertaken in the cause of education alone—a movement kept clear of all personal or partisan ends—will receive the hearty approval and warm support of the thoughtful public. I believe that the same idealism which sent millions of our youth against scientific barbarity on the battle fields of Europe may be enlisted in a cause which has always, next to liberty itself, been dear to the hearts of the American people—the cause of true education.

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V

LITERARY STUDY AND PRACTICAL THINKING

To raise the question how far an understanding of literature is an aid to thinking is to provoke the inquiry, "What is thinking?" For the present purpose, a preliminary to sound thinking is that one see things as they are, invested in their natural colors, and divested of color from one's own state or cast of mind. For a perfect impression the mind must act as a film—a film that is clear of blind-spots and of excrescences and creases of personal bias. For serviceable thinking, the mind must first of all be a good camera, a sincere reflector of light and shade. To understand the relationships of the parts of an automobile so that one may conform to the requirements of the mechanism for service to himself and others, one must first see the parts as they are. Serviceable thinking, in a similar way, is based on an accurate visualization of the facts and truths of nature and of human nature. With them it squares itself, and with them it maintains continuously a definite and intimate relationship. When thinking ignores fundamental facts and truths and undertakes to create relationships it is in error; it is sound when it confines itself to their discovery. It does not consist in building up assumptions, but in putting them out of the way. It does not proceed by canon, code, or edict, but conforms to natural law. It has no hauteur. It is compliant. It is docile. The best thinking is instinct with humility. It is not entirely intellectual. It is moral as well. It partakes of the nature of interpretation as well as of reasoning. It would seem to be an application of the whole understanding, a rallying of all the elements of consciousness to a degree of receptivity that registers a distinct and accurate impression. Constructive thinking is built on fidelity to fact and clear sensitiveness to truth.

Shakespeare, for instance, is proverbial for his fidelity to fact and clear sensitiveness to truth. He holds the mirror up to nature with singular fidelity. In due perspective, which lends just proportion, he is able "to see life steadily and see it whole." He is a study in mental poise. He provokes the inference that a complete union of healthy physical, mental and moral being in a ripe personality, which reacts normally and wholesomely if not always pleasurably, forms something like a basis for sound thinking. Here is the rotundity of completeness and normality of mental and physical adjustment. Here is the harmony of life's response to soil and sunlight, drought and flood, whether the life be sentient or unconscious. Here is the prophecy of the ultimate adaptation of thought to the universe, the subordination of will to natural law, the adjustment of growth to environment. Here is Shakespeare's contribution to the groundwork of practical thinking.

Such rotundity have Shakespeare's female characters almost without exception. Instinctive orientation is scarcely better illustrated in the swan's moving majestically out upon the water from the first oarstroke of a webbed foot. This, Shakespeare seems to have typified consciously or unconsciously in his heroines by the positive method of representation, and the lack of it in his heroes by the negative device of elimination. On the other hand, he has paid womankind the compliment of attributing to it a natural and wholesome outlook upon life, whence all its relations are in harmony. Paragons all—with few exceptions like that of Goneril or of Lady Macbeth—"they are all *genera* intensively individualized." The dutifulness of Cordelia; the honor of Imogen; the tender delicacy of Viola; the unsuspecting trustfulness of Desdemona; the unfeigned majesty of Hermione—all blent in one being, would presumably represent something like Shakespeare's conception of a woman. On the other hand, the animalism of Falstaff; the greed of Shylock; the amibition of Macbeth; the jealous assumption of Othello; the stoical obsession of

Brutus; or the vacillation of Hamlet between his ideals and their execution—this seems the one moral blemish, the blot on the film, which prevents a clear impression of things as they are. Here clear thinking is at an end. The removal of these several defects, and their like, restores the moral poise and mental rotundity. As tho dissatisfied, however, with his accomplishment in the matter of clearing up the status of sound thinking, Shakespeare creates the characters of Prospero and Miranda. He places them unsophisticated in a world of untainted idealism, where mind-distorting selfishness has not stalked in to disturb the "progress of solemn thought and moral wisdom." There unencumbered grows the crowning requisite of vessels fit to reflect the truths of life with fidelity—in Miranda a virgin openness of mind; in Prospero a profundity of natural wisdom which seems magical and mysterious. Altho not a conscious teacher in any sense, Shakespeare is nevertheless "a focus where a number of vital points unite in their purest energy." If he is a dramatic thinker primarily, he is admitted to be a practical thinker as well.

Thus sound thinking seems well exprest in orientation. It is like the process of determining one's whereabouts and his relation to the place. Beyond that, if one could ever get so far, one becomes a part of the harmony of nature, which is in him and of which he is a part, functions with it, and reflects its wisdom. He is master of the technique of life. A man's wisdom is his reflection of nature's harmony. The music in the soul of Paderewski has become intuitive action now that he has worked out the technique. When, and if, the astronomer has mastered the mechanics of the universe, his adaptation is complete. He is of a piece with it and reflects it intuitively. Mankind seems the one part of nature that wills to struggle against it. Life would cease to be a mystery if one were in rapport with the fundamental spirit of it. Its tragedies are but the discords of our blundering with its technique. They are the troubles of orientation.

The literary masters serve us here. They are specialists in life's technique; they sound the key-note of life's orchestra. Their books are great tuning-forks to elicit the pitch of one's nature. They interpret one to himself, smooth over the difficulties of orientation. Unlike the harp of a thousand strings, one can not accommodate himself to every vibration. He reacts harmoniously only on the rhythm which accords with the fibre of his being, encounter as he may the whole gamut of tones, half-tones, and over-tones. The masters give him the pitch. When he realizes the mind that is in him, the music of his soul swells out in full volume. He has acquired an avenue of self-expression thru which he applies himself to the world's work with accumulative effect. Samuel Johnson, for instance, traced the beginning of his life-long education in thinking and expression to a copy of Petrarch; Robert Browning, to a copy of Shelley's poems; John Addington Symonds, to the *Phaedrus* and the *Symposium;* Nathaniel Hawthorne, to the *Faerie Queene;* Philip Gilbert Hamerton, to the *Lady of the Lake;* and W. T. Steed, to *Hamlet* and *Othello.*

"The poet is the great thinker," says Arlo Bates. That is because he is the exponent of the instinctive sense of human weal, by the measure of which adequate thinking proceeds. More than any other he is the interpreter of the inner sense of the people, the common soul of the time. History recognizes poetry as the focus of the sincere reflections of the rank and file, the body of democracy, the repository of sentiment which is not with impunity overlooked in policies of state. The best poetry is an expression of the deeper issues which governments and institutions are intended to serve. The product of incisive imagination and agile understanding, it interprets the human spirit, makes it tangible, and gives it recognition. Paradoxical as it may seem, the poet rather than the legislator is the maker of the state. The lawmaker, by the exigencies of political life, is likely to escape something of the instinct of democracy, unless he be a Mazzini, a Burke, a Lincoln, or a Gladstone. The best thought is not originated in the legislature, but is openly manifested there by its effects, so far as it gets a hearing in a tournament of conflicting motives. That is a place more or less of compromise, where interests are played off against the common good. Wisdom is apt to be slighted somewhat at the bar of contention and debate. Vision is somehow at a disadvantage in a settlement that is determined by the mace. The struggle of interests obscures discernment, and the temper of expediency is not useful for purposes of interpretation. Government wants initiative. The poet speaks first. To his lead we kindle.

Much as we are inclined to discredit the utterances of poetry we have to recognize the effectiveness of its message in history. It is acknowledged that the Greek state was largely a tribute to the *Odyssey* of Homer. The heroic figure of Ulysses was for the Greek the mould of genius: his wisdom was the counsel of Greek statemen and his character the pillar of Greek institutions. "The *Odyssey*," says Professor C. Alphonso Smith, "is but the Greek history in prophecy." The relation of Dante to Italy is the same. He is the spiritual father of the generations of Italians who have succeeded him. "They talk Dante, write Dante, and think and dream Dante to an extent that would be ridiculous but that he deserves it," wrote Byron in one of his letters from Italy. The *Divine Comedy*, even more than Mazzini, is the humanizing and cementing force that has transformed the geography of local sovereignties and dialects into a unified Italy with common ideals. Similarly, out of contending baronies and petty self-interests England was made a homogeneous people in a large measure by the democratizing energy of the Canterbury Tales. In fact the relations of Homer and Dante and Chaucer to the political systems which they inspired were something like that of a keystone to an arch: they supported the whole structure. At a time more advanced Charles I was the leader of the forces that would civilize England by masques and court entertainments, by fine pictures, by music, by a splendid ritual and church ornaments. Milton voiced the deeper sympathies of the time, and the temper of the Puritan revolt. The Cavalier régime toppled and fell. It has been said that every great poet remakes the world. The accents of Browning's Pippa fall upon the ears of the four most perplexed ones in Asolo at a tidal moment when their better natures are alert, and turn their impulses into conduct. The voice of the poet crystallizes the vague intuitions of the aspiring world into concrete motives for action.

The great prose masters are likewise the interpreters of life, and therefore the leaders of thought. Like the poets they voice the sense of mankind in terms of central ideas. Their sense is the sense of the common mind so well exprest as to become a concrete working principle. Emerson says of a copy of Montaigne which he found in his father's library: "It seemed to me as if I had myself written the book, in some former life, so sincerely it spoke to my thought and experience." Ben Lindsey is a natural leader of boys because, understanding and appreciating the best elements of boy nature, he interprets them to themselves. Woodrow Wilson is a leader of world thought because he perceives and expresses the fundamental sense of the human mind as no other man before the public is able to do. His deliverances take hold of us because they are the concrete wording of our subconscious thought. In the same way the prose masters grip the mind with things central and fundamental. Obeying the law of sound thinking, they have leadership.

A sympathetic reading of the essays of Montaigne or Emerson lights up our more or less dark minds as tho an electric light had been switched on to show us the furniture there. They tell us nothing that is new; they only make vivid the subconscious knowledge we already have. Montaigne is an incentive to clear thinking because he helps us to see things as they are. He was intellectually honest; he disliked pretense. "We must rend the masques from things as well as men," he says. In the words of Henry W. Sedgwick: "He prowls about the beliefs, the opinions and usages of men, and taking up a thought lifts from it one by one the envelopes of custom, of prejudice, of time, of place." Emerson, like Montaigne, saw that because a man chooses and acts in his own soul he has taken himself out of the order of nature and become a stupendous antagonism; handles the instrument of thought, as a boy a pistol, much to the detriment of himself and others. And so Emerson became an apprentice. A testimonial to his adaptation is that his thought coincides with and anticipates the most progressive thinking of our time. He anticipated many of our most practical undertakings in all their principles. "I discovered in Emerson's poems and essays," says Dr. Charles W. Eliot, "all the fundamental motives and principles of my own hourly struggle against educational routine and tradition."

So with other great essayists. We mention a work each of only three: *Sartor Resartus* is the abstruse title of a misunderstood book. Either the title, or the book, or both together, succeeded in materially reducing the popularity of Fraser's magazine, in which it was published serially. It rends the masque from things, and challenges the validity of thought that is not grounded in fundamentals. The keynote allures the inquiring mind: "How we clutch at shadows as tho they were substances; and sleep deepest while fancying ourselves most awake." *The Seven Lamps of Architecture* provokes the assumption that it is a treatise for architects, but turns out to be the light which architecture in seven of its phases sheds upon sound thinking. It is a specimen of thought-building as distinguished from castle-building, a kind of St. Mark's in the architecture of thought. *Conciliation* by Edmund Burke is even more splendid. In point of mental penetration and spiritual discernment it is significant. In it the vision of Burke has become classic. It is the common verdict that to his clear thinking is due the coherence of the British empire. England, Canada, India, Australia, New Zealand and South Africa for four years mingled in the trenches in defense of the principles here outlined. Burke's *Conciliation*, like a great picture, accumulates effect as it accumulates age. The dust of the centuries into which the receding years dissolve the ephemera of error, seems as a foil to accentuate the immortality of its truth. It seems the burden of the masters that the error of personal expediency, growing out of egotism and the common acceptance of custom for thought, is easily a prey to the disillusionment of age, and accumulates in ominous windrows of decay under the bleaching effect of time.

As thought-inspiring prose the *Pentateuch* has not been surpast. It is a revelation of mental sincerity and unaffected directness. There is the *Book of Job*, from which no reader who has felt the appeal of Ulysses or Samson turns without some loss of respect for a frail and fickle mind. The wisdom of *Ecclesiastes* has ever been the counsel of the thoughtful in world values. In the Prophecies we have the ripened fruits of understanding; the application of the best thought to the common details of life. And the Gospels have challenged the thought of the world for some thousand years to the extent that their temper has levened the whole of literature. These are prose masterpieces which have had more than a temporary, geographic, or ethnic relation to thought. They have been the Great Stone Face in the consciousness of men till they have found tangible expression in all their institutions of civilization.

For flexibility of mind there is scarcely anything better than a thoughtful study of great fiction. The great drama no less. The reactions of men and women on life are there seen openly to be predetermined by a method of thinking. One discerns there that sound motives are conditioned upon a conception of life in its entirety rather than in its detachments. Knowledge there is opportunity and power for the thinker. The masters have incarnated each phase of thought in an immortal personality to be the subject of our intimate and life-long contemplation. Each personality represents a persistent point of view as it affects the stature of a man in his maturity. Uriah Heap is the evolution of hyprocrisy; Jeanie Deans, of sincerity. Companionship with Don Quixote, whose evasion of the truth of life betrayed his otherwise integral mind, reveals a disposition to mould the world into accordance with personal anticipation. Acquaintance with Leatherstocking reveals personal courage to square with the facts of life. To a fuller extent the same is true of Robinson Crusoe. Mental adjustment to a strange world he achieves with grace. Of thinking for oneself he is the prototype. In him the term orientation loses its mystery. He might pose to a sculptor for the image of adaptation. One might say that his mental rotundity is complete in the sum of the spherical polygons represented by the other characters of fiction.

These merely indicate the limitless incitement in a studio of literary creations. Better known to us than most of the great figures in history, they enter more vitally into our thinking. As an evolution of a way of thinking they are more concrete and recognizable than our own intimate, personal acquaintances. We know more of their inner motives than of our own. Without their companionship we have touched life too narrowly. Contact with them lifts our thinking from its provinciality and gives it balance. Their society gives the effect of a traveled mind to a stay-at-home intelligence which rarely puts to sea. "Few living friends," said Robert Louis Stevenson, "have had upon me an influence so strong for good as Hamlet or Rosalind."

A character in fiction, or in the drama, is commonly involved in circumstances to which it sustains relations more vivid to us than our own relation to life. For instance, the son of a poor forester, early an orphan, reared by a married sister, at seventeen saw seven little children clinging to the hand of his sister's husband who was lying dead on a heap of straw. For ten years he toiled as brother, husband and father, receiving ten sous a day for seventeen hours of work. Failing of employment he was distrest by the hunger of the children. He saw some bread in a baker's window, suddenly struck the glass with his fist, took out a loaf and carried it home. A bleeding hand and his own confession convicted him of burglary, for which he was condemned to the galleys for five years.

The situation is interpreted by a skilful portrayal of its consequences, in a great work of fiction. From straitened circumstance Jean Valjean carried a handicap, not only in the way of access to what life offered him but also in the way of his contribution to it. His own touch with it was too narrow, his experience too personal, and his welfare too immediate and absorbing to enable him to see the bearings of the society to which his experience was related. In the novel the clash and play of ideas and character, each representing its constituency of thought, reveals something of the relation of experience to a mode of life, and therefore to prevailing opinion. Thus as the knight errant of Jean Valjean, Victor Hugo interprets a state of society in Paris so as to exhibit the repression of the city's best thought in the bud, by the tyranny of the so-called thinking classes over the children of the unfortunate. He clears away ambiguities and leaves recognizable the right of opportunity, the widsom of its equal distribution, and the criminality of the social order that obstructs it or takes it away. He bares to the public view the loss of moral and intellectual stamina thru the withering of genius in cramped circumstances; the loss not only of the personality that has been supprest but also of the freedom of thought itself, freedom to square with a great reality of human nature—the instinct of sympathy. It is as tho he had put his finger on a misconception that had made history a tragedy and cleared the way for the image of a man who has escaped the slavery of opinion in his realization of a fundamental reality, has planted his thought indomitably upon it, and kept it there till the world has come around to it.

These are a few of the books which the leaders of thought recognize and in which they find their own minds. They are of the substantial order of literature which has the world's best thinkers behind it as its explanation and the world's best interests before it as its motive. They represent the living, perspiring energy which is liberated in the quest of mental and spiritual adaptation. They are the vitality of pulsating life in which one participates as tho his welfare were involved in every page. They interpret one to himself. As an expression of the human mind they can never be technical, or narrow, or superficial. On the contrary they are comprehensive, logical and profound. The pulse that quickens to the genuine thought of the literary masters throbs out the laborious struggle to intellectual freedom. Intellectual freedom, as used here, comprehends something like freedom from bias, predilection, tradition, custom, convention, or ideas of personal pleasure and advantage, freedom from the encumbrances to a ready response to truth and fact, freedom to pursue the intimations and evidences of universal good.

One finds that a man's worth does not consist in his being statuesque but is manifested in the gratitude he awakens by his thoughtfulness of men. Similarly, literature earns universal gratitude, not by its harmony of accent, but as an interpretation of the human spirit. The worth of literature lies in its record of mental evolution. Its vitality is its obedience to the moving forces of life. It is virile in proportion as it helps man to express the truth that is in him, as a vine expresses itself in clusters of grapes. It lives by its service to man's instinct to disencumber himself of the handicap of convention and opinion, and of his own predilection and bias. It is not contracted in its appeal; it is not bread for leisure and vitriol for labor. The literature that purges its pages of all peasants and resolves to be wise only with regard to courtiers and kings, thereby writes upon its face the seal of oblivion, unless, perchance, it serves as a looking glass to an unserviceable and obsolete order of life. The genius of Pope and Dryden is limited mainly to their skill with language and literary forms; that of Milton and Shakespeare penetrates to the human equation. The works of Sydney Smith carry allusions to the vulgar herd. In *Uncle Tom's Cabin* a slave steps forth as a candidate for hero-worship. While Fielding and Smollet may be tinctured with scorn for the masses, Dickens is the almoner of the Oliver Twists; George Eliot, of the Tom Tullivers; and Thomas Hardy, of the Marty Souths and the Tess of the D'Urbervilles. The literary master owes his recognition to his interpretation of ultimate good in human experience. Our textbooks in ethics and logic and philosophy are too abstract to bring home to us the fundamentals of practical thinking. The great poems and novels and essays give insight into the problems that engage men's minds. They appeal to us as books for study because in them fundamental principles are made flesh and embodied in living persons.

As a record of mental evolution literature has not uttered the last word of human wisdom or the whole truth concerning ourselves. Only fundamental and central ideas have been perceived beyond the envelope of personal interest and expediency, which operate to encumber mental freedom and narrow the horizon of thought. So immediate and practical seem the needs of subsistence, upon which the usual operations of the mind are centered, that the intervals when the vision is clear are likely to seem moments of delusion. Things are commonly seen in accordance with anticipation. Disillusionment comes when they are seen as they are. Disencumbered thinking pierces the envelope of illusion and dares to penetrate the realm of truth unaccompanied and unafraid. It recognizes the legitimacy of the spiritual undercurrent in human nature, which is contemplated often with trepidation as something illusory. It fathoms doubt, which intimidates the mind, in quest of the faith which makes it firm. The venture beyond the limits of conventional reflection, and into the field of mental self reliance marks the breaking of home ties, which bind one to a condition. Thinking can not be subordinate to what is written, or superior to what is true. As one finds his own mind in literature he recognizes his equality with the best that has been thought, and himself as a part of the stream of life upon which he dares to put an interpretation consonant with the vision that is in him.

But thinking is cumbersome and unmanageable till language ceases to be clumsy and difficult to manipulate. Approach towards clearness of mind is commensurate with progress in clear statement. Altho aptitude in expression is induced by the insistence of the message, yet the incisiveness of the message is derived from the logicalness of the language. Language as language is barren. Vital composition is something more than juggling with words. It involves the building of conceptions and the marshaling of ideas, wherein language functions normally and manifests its vitality. There would seem to be something illogical in the idea that halting expression can be at one with veteran precision of mind. The bane of a course in composition would be removed if it were actuated or vitalized by the insistence of ideas. Language in its final analysis becomes the logic of thought, and so is integral with thinking and progresses with it in aptitude and efficiency. Appreciation of truth begins with respect for accuracy, even in language. One has the measure of his thinking stature in the aptitude and precision of his utterances, as well as in the measure of truth which he utters.

The best aid to clear thinking is a zest for the truth, which is at the basis of an appreciation of literature. The more insistent the truth the clearer the expression. Men phrase their thoughts and point their language with high sincerity and moral earnestness. In the recent war of deliverance "they fashion a series of heroic actions unified, composed, coordinated, full of soul, dedicated to the highest powers." If the great war was a cathedral, as the Frenchman, Maurice Barrès, has put it, then likewise is the appropriate expression of any great truth. Such is a classic. The diction, phraseology and language structure of a literary classic is the outward machinery of clear thinking, and is a stimulus to thought, beside which a treatise on thinking or on language lags in comparison. In it is the open and recognizable face of moral earnestness. Burke's speech on conciliation is a quest of truth so earnest that the encumbrances which commonly attend it, like the enemies of determined righteousness, have fallen away. "I did not think it safe or manly," he says, "to have fresh opinions to seek upon every fresh mail which should arrive from America." His determination to uncover the truth that holds for all time carried with it the attendant lucidity of expression which speaks equally with the thought. The sincerity of his language, which puts casuistry to rout, seems more eloquent than his conception that "genuine simplicity of heart is a healing and cementing principle." The insistence of the truth in Burke's utterances makes circumlocution and ambiguity ridiculous, clears his deliverances of awkwardness, his thought of incoherence, and leaves a structure of language like the architecture of a cathedral, clear-cut and pointed in its moral effect.

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VI

SUPERVISION OF INSTRUCTION

The times of school visits, perhaps it should be written "of school visitation," by the supervisor of instruction, is in many school systems and for some teachers in all school systems, a day or time of extra tension and strain. "The supervisor may not be pleased or may find something to criticise," thinks the teacher, and therefore dreads the supervisor's coming or the interview after the visit. Many teachers, on the other hand, feel that the days of visit by the supervisor are among the best of the week or month. They look forward pleasantly and eagerly to the visit. If they chance to see the supervisor they are sure to inquire, "Are you coming to my room soon again?" They look forward to the visits with expectations of delight and profit. Will they not be given help and advice about matters that have puzzled them? Will they not receive commendation for new features in their methods? Will not the supervisor clear up certain cloudy problems? Will not the supervisor have suggestions and recommendations for the management of hard cases of discipline? Will not the supervisor bring new ideas, new hope, fresh courage for the daily round of difficulties? How may the supervisor's visits be made an unfailing satisfaction and pleasure for every teacher?

All teachers who regard the supervisor's visits a pleasure and a source of strength could easily write a prescription to fulfil the conditions, and all the prescriptions would have common suggestions. Among the suggestions given by a group of experienced teachers to a group of beginning teachers, the following were found. Other suggestions are possible, and a few of the recipes had none of these suggestions. Therefore, no claim of exclusiveness can be made for the suggestions here presented. To claim that would be folly. Instead the suggestions are past along in the hope that since they have already helped some young and beginning teachers, they now find a larger usefulness, and entirely in the spirit of freely and gladly giving to others what has been found useful and helpful to some.

The teacher ought to be glad when the supervisor comes. "Ought" is used advisedly and intentionally. The school system is under obligation to the present generation to fit the new and oncoming generation most directly and most economically for its duties and responsibilities in the sphere of adult manhood and womanhood. Hence, instruction must get to its goal at the least expenditure of time and money. In school systems where a large percentage of the teachers is "inexperienced" each year, and where another large percentage is also "untrained" each year, the only reasonable means of securing the necessary economy and directness is thru the provision of careful supervision of the instruction. The supervisor is a fixt fact for some coming generations; the school inspector can come only when the untrained and inexperienced teacher disappears. Since we must have supervision (guidance) of instruction, therefore, it becomes a duty of teachers to be glad for it, and the "ought" should be that of a firm and unfaltering resolve, stayed by the expectation and belief that supervision will lead to better work in instruction. A steady, fixt and positive determination to get good out of the supervisor's visits, to learn from them and to profit by them, is a first necessity to the actual and positive enjoyment of them. "I will overcome my foolish fear and nervousness and just be myself," must be resolved and the resolution lived up to. It may waver, rise and fall and disappear when the supervisor is actually in the room, but it will also rearise and stand out if the teacher is getting ready all the time instead of just about the time when the supervisor is expected to come. For instance, the teacher who propounds a teaching perplexity to a supervisor, and who receives an appropriate suggestion from the supervisor, will not easily think nor believe that the supervisor's visits are to be dreaded rather than enjoyed.

Besides this moral and ethical "set" of mind to enjoy the supervisor's visit, the teacher should be sure to make use of the following suggestions. First, in a note book kept for the purpose be sure to record difficulties as they arise in the instruction. Any hints that her own knowledge or experience suggest should also be noted. During the supervisor's visit, bring out the note book and refer the difficulties to him with a request for advice and help. Your careful note taking and your serious effort to help yourself, will impress upon him that you are both careful, studious and seriously in earnest. That impression is worth very much to the teacher. Also, after you have noted the difficulties and your best thought at the time, review your notes, and you will find your own mind dwelling upon the matter and drawing upon your experience, your observation and your reading for a further or for a more complete reply. This reaction upon your own thinking is worth more than the supervisor's visit, even if he does give a different suggestion. The teacher is developing strength and is laying up resources of helpfulness. Each of these is an excellent form of teacher self-culture and self-training. Second, after the supervisor makes suggestions in response to your request for help, adopt and adapt the suggestions to your school, classes and circumstances. To dismiss the suggestions without trial shows the teacher to be a mere flatterer, and not a student in search of better ways of teaching. That is what the supervisor will unavoidably think if the recommendations asked for and given in good faith are not observed in the teacher's subsequent practise. As mere policy, obsequiousness it will perhaps be thought, it is wise to show respect for his recommendations. The young teacher working under the guidance of a wise supervisor will nearly always find that the practise thus begun for mere policy will quickly establish itself firmly as a clearly grasped and intelligently applied principle. The supervisor's larger knowledge and longer professional vision will stand justified and confirmed by the outcome. The teacher who was but a short distance from scoffing will be converted into a believer in the wisdom and worth of the supervisor's recommendation. The mechanical and unsympathetic supervisor will be merely the exception which proves the rule. Third, tell the supervisor about difficulties which you think you have mastered for yourself and invite his judgment on your solution. This is not vain glory. This is the teacher's right and privilege. Since he can not see all of any teacher's work, and since the teacher is laying bare some of her weaknesses by her work or by her requests for help, therefore the teacher not only has the moral right but should feel under the necessity to tell some of her successes, entirely as a way of securing a fair and just judgment of her work, and as an offset to the admitted faults or weaknesses. The careful record of such instances, the modest and simple statement of facts, will stamp the teacher as careful, methodical, studious and desirous to improve in her work. To be thus regarded by a supervisor is to be held in not only high but in fine esteem.

Follow your regular program or plan of work when the supervisor comes. If he wishes to see any special class or branch taught, request will be made. Be it ever so artfully done, suggestion of a change from regular work impresses the supervisor with the teacher's unwillingness, perhaps unreadiness, to go on with the regular program. If unreadiness, than unpreparedness, and that is a cardinal sin. No form of flattery of him as a fine speech maker is ever subtle enough to deceive the experienced supervisor. He was once a teacher under supervision. That little subterfuge is quite transparent to him. The teacher who believes and who acts as if she believed that the class will get more if she teaches it than if he taught it, is taking a fine professional attitude. The teacher who is sure that the children will be greatly profited by the supervisor's speech is not fooling him even if she is flattering him. The teacher who omits the regular grammar lesson and who calls out her Third Reader Class instead, is not fooling herself nor the supervisor nor the children. If such dodging must be resorted to when he comes, of course, the teacher will be under a tension and strain. If careful plans are made for the daily work, for recitation and for seat, and if the plans are faithfully followed out, the teacher has forestalled all faultfinding. Instead of faultfinding, the careful planning and the faithful carrying out of the plan will evoke and will be sure to receive praise and commendation, and will thus start kindly thoughts and pleasant expectations from his visit.

The teacher who thus thoughtfully notes her difficulties daily just as they occur and refers them to the supervisor, who adapts his suggestions to her needs, who reports her own successes as well as her failures, who plans her work and works her plan, determined to teach every lesson as if it were to be taught under the observation of the supervisor, will be sure to enjoy her work most when the supervisor comes to render an opinion; she will be sure of approval of the excellences of her work. From that experience she will be able to judge more correctly and confidently on days when he is not present. That surely will result in a substantial increase in joy in her work. Thus diffidence, fear, discomfort, or even dread of the supervisor's visit, by determined and conscientious effort may be turned into enjoyment and pleasure and into the largest professional gain.

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VII

SOME FACTS AND THEORIES ABOUT READING

I

There was a time when men had very little to read. The earliest man probably read marks in the sand. Later, he chipped marks, or crude letters and symbols, into a flat stone with a flint or bronze axe. Later still, he wrote on the bark of trees. This was because it was easier to chip bark than to chip stones, and because bark could be carried about more easily than either sand or stones. Our word, "book," by the way, comes from, or rather is the same originally as, the word "beech." Beech bark was seen to be well adapted for writing.

Later, our ancestor man found that other things were fitted for this same intelligent purpose. When he killed and skinned his sheep, he kept the thin lining skin for a tablet. This was even better than the beech, for it was lighter and could be folded. We do not longer use the parchment for writing, because we can not afford, in these days of varying and soaring prices, to kill a sheep whenever we have anything to write. Perhaps if we did this, we should write a great deal less and, incidentally, a great deal better. But we still can console ourselves with the fact that, when our colleges give out their degrees, even to this day, they write the testimony thereof on parchment. This is rather a genuinely beautiful tribute, if we but stop to consider it, to the days when learning was not a matter of slap-dash skimming of textbooks, getting from a dozen what would not fill one; but was a task of putting into one carefully compiled parchment what was gleaned from several dozen books, and that perhaps in considerably more time than it now takes a youth to go thru college.

Our modern, even hastily and badly written books, together with all the good ones, have an ancestory behind them which not only solicits but commands our respect. The wise man likes to respect all books as he likes to respect all men. Even the bad ones are the wrecks of what might have been good ones. As the sight of the hulk of some old, unseaworthy ship sets our thoughts and our imaginations to working on ideas that are valuable at least; so even any worthless thing in the shape of a book may be valuable as it suggests what might have been or what ought to be. How fine is the sight and consideration of those good books which have weathered the storm and have made their safe voyage down the ages. The collector of old books is one of the few cranks who should thoroly command respect. A man may collect old coins till he has a bin full; but old coins merely represent a dead commerce and a haggling after bargains. Old books suggest men and their lives. A man can not put his soul into a coin; but he can put it into a book. So, any collection of old books forms a sort of Valhalla, a palace of immortalities.

II

George Brandes says in one of his delightful essays, entitled *On Reading*, that out of a hundred persons able to read, ninety generally read nothing but newspapers. And he styles this a species of reading that demands no attention or exertion. Yet some of us find it twice as hard to read the newspapers systematically as to read books. Aside from the personal fact, I am of the opinion that more people read books systematically than Mr. Brandes supposes. Even if the figures are at all as he imagines them to be, it might seem that, in addressing himself to the ten per cent thruout the rest of his essay, he falls a bit short of the writer's duty in not calling the other ninety to account.

But be the above reckoning right or wrong, there is, after all, something to be said in favor of newspaper reading. We must read newspapers, just as we must not neglect listening to every-day conversation. The newspaper represents conversation as books might be said to stand for oratory. One chatters on; the other declaims. Even the chatter may help us a great deal, if it be on a subject that interests us and is profitable in supplying us with a knowledge we do not already possess or can not otherwise obtain. To replace Mr. Brandes' statement with this one: that ninety per cent of the people read newspapers, might be more like representing the facts, as well as giving us a little encouragement. There are many college men who never take the time to look at newspapers except during the sporting season. Many people have grown up without caring half so much for newspaper accounts as for stories in books. And perhaps most children have read a hundred and fifty books before they see the necessity of reading the newspapers regularly.

III

There are old and new ideas concerning reading. We can hardly consider the subject of reading without noting that the reading done by the mass of people who draw books from the public libraries is of a sort different from the reading done at the beginning or at the middle of the last century. We have seen little George bring home many a book of which grandma did not wholly approve. And the disapproval has come not so much from the fact that the book was a bad book, as from the fact that grandma was not sure that it was a good one. In other words, she did not know anything about the book, because it was copyrighted long after she had her last pair of spectacles fitted. She may have had her spectacles fitted within the last two years; books may be new and old within that time, nowadays.

The whole reading proposition which our parents and our grandparents faced was different from the one which we face and which our children will face. Publishing conditions partly explain this. But aside from this, it may be said that we go about our reading differently. Libraries enable us so to do. Besides we will it to some extent.

The old and the new ideas are easy to compare. We have heard that there is no reading like the Bible. The person who has not had this said to him has mist the advantages of a correct, old-fashioned bringing-up. The persons who first said this and the persons who say it today are right. There is no reading like the Bible. But the same may be said of other books. It is said of Dante. It is said of Bunyan. It is said of Milton. It may be added that there is nothing like Mr. Kipling's poetry. These are all things which have been attempted once and have been successful. Probably in each of the cases cited, even including the Bible, the original will not again be closely imitated—can not be.

The old idea about reading was that such books as the Bible, Dante, Milton were the kind you should bring up children upon. The idea was all right to a certain extent. If the children could stand it, so much the better for them. It made them Jonathan Edwardses and Lincolns. At any rate, it made them greater than they would have been without their classic knowledge. Get a knowledge of the classics first! This is what the old theory of reading insisted upon.

The newer theory about reading is in line with the modern method of education generally, especially as concerns children. It is not a view that has been made up by thoughtless radicals, nor has it had a mushroom growth. Our part seems to be rather to recognize that this newer general view does exist than to stop to challenge its right to exist; because, while we are in the act of questioning, it is strengthening itself. Today the wise parent and the wise teacher let the children begin their education by considering the things that interest them. So in their reading, we have got to the point where we let them choose largely for themselves, provided we see that the reading is not bad reading. And the result seems to be that they read! Carried to its logical extreme, the newer theory concerning reading says, "Do not start the children in on the classics; let them set to reading books written for boys and girls now living. There is some chance that this may prepare the way for an appreciation of the great writers of the past."

A wail goes up from the old school, "The classics will then die out."

"What will make them die out?" we ask politely enough.

"Neglect."

"Then let them die."

We say this with such apparently unwarranted boldness, because we may be sure that the classics will not die out from neglect. The classics will not be neglected—and this not because they ought not to be, but because they can not be. The fact that a lot of youngsters are no longer ploughing thru translations of Dante does not mean that thoughtful men are setting Dante aside. The fact that the average schoolboy draws out of the library books that are not directly related to the Ptolemaic theory, or even the Copernican, does not show that these theories will not bear studying in their place. The point is this: Milton's *Paradise Lost* has its place; but the newer theory of reading will not admit that its place is in the schoolboy's book-bag. The up-to-date ideas about reading are not calculated to destroy the classics, but merely to prove them, that they may be found worthy. The man who takes his little boy to the river and throws him in, does not do so because he is tired of his little boy. He does it in order to teach him to swim. And generally the little boy swims.

IV

How shall we read? It may be claimed, to enjoy. Even for classroom and professional purposes, it may be argued, few persons read because they want to learn. A few pedants claim that they read from an interest in learning. But the fact of the matter is that they have come to the point where reading is merely their liveliest form of recreation. They enjoy learning.

"But what am I to enjoy?" asks the average person.

Not long ago, I went into the home of a certain business man in an Ohio town. On the table in the living-room I saw the lectures of Robert G. Ingersoll.

"You don't mean Ingersoll, the agnostic!"

"Yes. By the way, he was something of the sort, wasn't he? I had forgotten that. I was only remembering that he spoke and wrote about the clearest and purest English prose of his time."

But this is why my friend was reading Ingersoll. He happened to be taking an interest in investigating examples of good prose. He was a lawyer—thought it might not hurt him in his professional work. He said he was enjoying it. Judging from the interest and avidity with which he turned to certain charmed passages, I was tempted to believe him. He said he did not care for some of Ingersoll's ideas. That was a minor matter.

Yes, let us read to enjoy. Let us choose the subject which happens at any special time to interest us, and follow it out. Let us go to the library and draw out the books which treat of it. Follow trails that seem to promise interest. Some will be blind trails; and we shall come to an end sooner that we had expected. Others will open up vistas that will lead to spots which we had only dreamed of and had considered inaccessible. When we have exhausted one subject, or our interest in it, let us try another.

The whole thing to remember is that when we come across a subject that interests us, we are to follow it up. We are to go a little way in search of a wider and deeper knowledge of it. The following up of special stimulations is the secret of profitable reading, as it is the secret of life. The special stimulation and interest in reading about a certain subject may last two days, a week, maybe two months. We are to get a corner of our head full of it. Time will go by. Perhaps one day, in conversation with a friend, or in a company, a subject will be introduced upon which our once favorite topic directly bears. And we shall speak out. Our friends will look at us in wonder, and will defer to our opinion. On one topic at least we shall have appeared to be educated. The man of large education is simply the man who has taken the trouble to inform himself on a number of small points.

GEORGE FULLERTON EVANS

DORCHESTER, MASS.

VIII

DISCUSSIONS

A REVOLUTION IN SCIENCE[1]

At a meeting of the Royal Society on Thursday, November 6th, the Astronomer Royal announced the verification of a prediction preeminent among the daring prophecies of science. The assembly was worthy of the occasion—the hall crowded with leaders of scientific thought, the president, Sir Joseph Thomson, and in the dim background the picture of Newton with its age-long welcome to those

> "Voyaging thru strange seas of thought, alone."

The contrast between the fact announced and the vast issues depending on it heightened the romance.

The mere fact was one of childish simplicity. Professor Einstein had calculated that rays of light passing in the neighborhood of the sun from the stars behind it should be almost imperceptibly deflected by a gravitational attraction to the sun. The result of this deflection would be that stars whose apparent positions are in the neighborhood of the sun (tho, of course, almost infinitely more distant from us) should appear as slightly displaced out of their proper positions away from the centre of the sun. In general such stars can not be observed, because the sun's light overpowers them. We have, therefore, to wait for an opportunity of seeing the background of sky immediately surrounding the sun. Such an occasion is offered by an eclipse when the moon cuts off the sun's light and luckily enough is only just big enough for the job, so that it leaves the surrounding sky open for our inspection. The method of observation is to photograph that portion of the heavens so as to obtain a plate containing the moon in the centre blotting out the sun behind it, and also containing as much of the sky with its stars as can be got into a plate suitable for measurements of astronomical precision. The configuration of the stars on the plate can now be compared with their known configuration as observed at night when there is no sun in the foreground. In this way by the exercise of almost inconceivable skill in delicacy of observation and in the elimination and estimation of small errors, the minute displacements (if any) of the stars due to the presence of the sun can be detected.

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[1] From *The Nation* (London), November 15, 1919.

An exceptionally favorable eclipse occurred in the summer of this year, and two English expeditions were sent out, one to Sobral on the northern coast of Brazil and the other to Principe, an island off the West African coast. The African expedition had ill fortune. For nature, with majestic indifference to petty human curiosity, allowed a light cloud at the critical moment partially to veil the sky, so that only two stars appeared on the plate. Luckily the Brazilian expedition was more successful and obtained seven fine plates with as many as eight stars on them. Nothing less than a theory of the universe depended on the examination of these few photographs. Antecedently, any one of three results appeared to be possible. There might be no apparent displacement of the stars. Such a result would be the outcome of orthodox scientific theory. There might be an average displacement thru 0.75″ (seconds of angular distance). This would indicate an interesting action of gravitation on light which is deducible from a theory which Newton himself had indicated as a possibility. Lastly, there is Einstein's prediction. According to him the deflection should average 1.75″.

The Astronomer Royal announced that in his judgment, after making all necessary corrections and allowances, the observed average deflection was about 1.9″, with a margin for uncertainty. The Sobral plates by themselves gave 1.98″ and the Principe plates 1.62″.

This is not the only triumph for Einstein's theory. He had previously explained by it certain peculiarities in the orbit of the planet Mercury which had defied previous investigators. On the other hand there has been one failure. The theory demands that in certain circumstances there should be a minute observable displacement in lines of the solar spectrum. This result has been looked for and not observed. But further confirmation of a difficult observation is desirable.

Einstein's theory can be summarily stated as being a modification of the Newtonian law of gravitation, a modification quantitatively very minute. It also involves the extension of the gravitational effect to light. Now, if the theory were merely this, it would indeed be of prime scientific importance; but it would not involve anything very revolutionary. Newton himself contemplated as possible both clauses of this adjustment of his law.

The absorbing interest of Einstein's investigations rests on the fact that they depend on adjusting the law of gravitation so as to make it square with the modern doctrine of relativity, of which Einstein himself is one main originator. There are yet other experimental grounds for believing in this doctrine, apart from the law of gravitation which Einstein has deduced from it, and many people who accept it have hitherto rejected this particular deduction. These further grounds are connected with the failure, either by optical or by other electro-magnetic methods, to detect evidence of the earth's motion thru the ether. The theory of relativity is the product of mathematicians working from electrical data; most physicists have hitherto looked on it coldly. But after its astounding run of luck in the way of experimental verification, it has got to be taken seriously.

No one who knows the theory will feel inclined to blame the physicists for shying at it. Fantastic consequences flow from it, consequences quite inconsistent with the traditional philosophy of science, which is in the main the legacy of the Aristotelian domination of the Middle Ages. In those times men took refuge from a disorganized world in a certain trim tidiness of thought. Accordingly, when modern science started on its career in the seventeenth century it took over the concept of a material universe adventuring thru a space and a time which would be otherwise empty and eventless. Science has persistently endeavored to explain any observed happening in terms of the fact that at a certain time certain material is in one place and is going somewhere else. The great mathematical philosophers, Descartes and Leibnitz, struck a note of warning as regards space, and long ago science has nominally adopted from philosophy the doctrine of the relativity of space. This means that space is only a way of expressing connections between the materials which are nominally said to be in space. Accordingly, there can not be first space and then the things to put in it, any more than there can be first the grin and then the cat to fit on to it. This doctrine of the relativity of space reduces all statements about configurations and motions of matter in space to statements about relations and changes of relations between various bits of stuff. But science has never taken this conclusion very seriously, and has been content to rest on the fact that, since in practise it is impossible to detect absolute motions, only relative motions enter into its reasonings and observations.

The modern theory extends the doctrine of relativity to time. For its time is nothing else than a certain interconnection between the events which are said to be in time. But the doctrine goes further. Einstein laid down the principle that the measurement of time is only achieved by following the life-history of some recognizable entity in the universe, such as our earth for example. Accordingly, each such entity has its own private time, and the inhabitants of the earth who adopt earth-time only achieve a public time for the universe by judgments founded on their system of intercommunication with the rest of the universe. Furthermore, the public time for earth inhabitants will differ from the public time of other beings on other bodies in diverse circumstances.

Experimental evidence suggests that, however your fundamental time-giving body is comporting itself, the velocity of light will appear to you to be the same. An estimate of this velocity should be the major premise in every argument as to quantitative effects; for it is the one fundamental measurement on which all beings thruout nature can hope to agree. It follows from this assumption that measurements of space and measurements of time are interconnected. Furthermore, beings thruout the universe will not even agree as to their judgments of simultaneity. For Jones, on the earth, event A happened before event B; while B preceded A for Ariel on a comet. Such divergences will be small and quite inappreciable for ordinary observation. And yet, make them as small as you will, they must necessitate a theory of things which is destructive of prevalent scientific philosophy.

The shocking character of these affronts to commonsense arises, in the opinion of the writer, from the failure of the revolutionaries to be radical enough. For example, some of Einstein's conclusions as to gravitation have been exprest in terms of paradoxical properties of space such as distortion and curvature. This is a mode of expression very useful to mathematicians. But on the relativistic theory the very concept of a unique three-dimensional space must be abandoned. Imagine yourself in the cabin of a steamer on a smooth day. You observe a point on the floor. This is for you a fixt point. The man in the anchored lightship which the steamer passes would judge that you are observing the successive events along a track of points, and the man in the moon would increase the complexity of the observed *locus*. If relativity be accepted, a point in a timeless space is simply the aggregate of a string of ideally small events which are to be observed under certain circumstances. Accordingly, the circumstances of observation must determine the meaning of the space that you are talking about. If you ignore these consequences of your theory, affronting paradoxes inevitably arise.

Again, it is clearly seen that a materialistic ether—that eminent Victorian—must go. But matter as ordinarily understood must go with it. The objections to the ether are equally objections to the current concept of matter. The situation demands a thoro-going reconstruction of the principles of natural knowledge. The conditions to be satisfied are on the one hand an admission of the new outlook and on the other hand an interpretation which preserves a meaning for those well-attested concepts which have proved their value for the expression of the facts of nature.

In short, Berkeley has been avenged, and the revolutionaries have stormed the last stronghold of Aristotelian scholasticism.

A. N. WHITEHEAD

FINANCING HIGH SCHOOL ORGANIZATIONS

The question of financing high school organizations is one in which every high school principal and teacher should be vitally interested. It is impossible to carry on outside activities without some financing. The discussion in this article will deal with three phases of the subject: First, how shall the different high school organizations be financed; second, what shall be done with the surplus money left over at the end of the year, and third, who shall take care of the funds.

In answer to the first question, we find that various methods are used in different high schools for raising funds to carry on their outside activities.

The publications, including the *Annual* and the weekly or monthly paper can very nicely be made to pay for themselves by means of the subscriptions and advertising. Some schools prefer to have no advertising in their papers, but this generally means that they can not put them out oftener than once a month. However, most of the larger schools prefer to use the advertising and publish the paper weekly. Frankly, I see no harm in placing advertising in the school paper. Rather I think it has a socializing influence, which after all is one of the principal motives in all outside school activities. The merchants whose advertising appears in the school paper, are much more interested in the high school after reading their advertisements. It also aids materially in the financing.

What is true with the paper in regard to advertising, is true with the *Annual*. There are three sources from which to finance the *Annual:* the first is from the subscriptions; second, the advertising, and third, by requiring each person or group whose picture appears in the *Annual* to pay for that cut himself or themselves. An efficient student manager must be chosen to look after the financial end of the *Annual*. In one of our Kansas towns it was a custom some years ago to hold dances in the town public halls in order to help finance the *High School Annual*. This plan has now been discontinued. On the whole, the *Annual* if properly managed can be made to pay for itself and often have a balance, by the three sources suggested above.

For other organizations, such as the Y. M. C. A. and the Y. W. C. A. and also the Good Times Club, fees may be required. However, these organizations can often raise goodly amounts by selling tickets for a movie on the percentage plan. This is not only profitable financially, but team work is developed and again the parents are brought into close touch with the school.

The finances of the dramatic clubs are generally taken care of thru the paid admissions to the plays, as are the debating clubs in charging a small admission for the competitive debates, generally between high schools of different towns.

The finances of the athletics are generally taken care of thru the season and single admission tickets sold for the games. These tickets should by all means be sold to outsiders. This again causes them to have a greater interest in the school and is a socializing agency.

The equipment such as suits and balls should be purchased either by the Athletic Association or by the school board just the same as any gymnastic apparatus. As a rule, however, most school boards feel that athletics should be made to support themselves, and, therefore, all expenses should be taken care of by the Athletic Association. The money received from tickets should be used to defray expenses of visiting teams.

Just a sufficient amount to cover expenses should be charged for tickets or asked as fees. The aggregate of money required for fees and tickets amounts to quite a little, and we can teach the pupil economy by making the price as low as possible.

Various means are used to raise sufficient amounts to take care of the different expenses of the classes. In some high schools a regular fee is charged for each member in the class; we will say each senior is required to pay at least two dollars as his annual fee to take care of his share of the class expenses for parties, and the like. I understand that in a certain second-class town in Kansas, no diploma will be issued to a senior even tho he has made a passing grade in his subjects unless the two dollar fee is paid.

Personally, I like the plan of special assessments to carry on the class activities, rather than the regular fee. I believe the latter plan is more democratic. Suppose the senior class is giving a party and the only expense is for the "eats." Let a committee be appointed by the president to look after this phase of the party. This committee will determine the amount per member, necessary to purchase the "eats" and an assessment will be levied upon those members only who desire to attend. If the right kind of interest is created, the majority of the class will attend. However, it is optional with them, and I believe the party will mean more to them than if they were more or less forced to attend since they had paid their two dollar fee.

Many high schools have lecture and entertainment courses. This arrangement helps to make the high school a great social center, as it should be. These courses are financed by the students selling a certain number of tickets to guarantee the cost of the attractions.

The parent-teacher clubs can be easily financed by a monthly or yearly fee being required of all members. Generally, the Board of Education will pay for the refreshments, or at least help in defraying the expenses.

In one high school in one of our northern states, an activity is organized which has for its purpose primarily, to teach the children to save money. In order to join the club, each child must agree to place in a local bank, a certain amount of money each week or month. This money is to draw interest much after the fashion of our Mutual Loan Associations. The sum required to be deposited each week or month is very small. This is a fine plan. There is a social impulse to do things when one is a member of a club, which that person would not do if he were not a member. This was illustrated during the war when thrift stamp clubs were organized. The child is not only taught to save by the above plan, but also becomes familiar with the use of the bank.

The second phase of our subject deals with what should be done with the surplus money left each year in the different organizations. It can remain to the credit of the different organizations, or it can all be pooled and spent on some valuable gift for the high school. In some schools, the surplus money from the *Annual* is left to be used by the next year's *Annual* staff. One evil in this plan is, that there might be a temptation for the next year's business portion of the staff to "let down" in the work of securing advertising, knowing that they already have a fund with which to work. In some high schools, it is customary to use the surplus money from the senior play to buy a gift for the high school and this then is distinctly a senior gift.

The answer to the third query, who shall handle the funds, seems very easy at first sight. The majority would say, "The treasurer of each organization is the proper person to handle the money for that organization." This plan has been carried out for years, but a new plan is being developed in our larger high schools.

Everyone must admit that very loose business principles have generally governed the financing of our high school organizations in the past. Some students have been allowed to handle high school organization funds, whom their own fathers would not trust with handling funds of any kind.

The money raised, has been turned over to the various treasurers without any check as to the amount they have, nor whether they use the money honestly or not. The new plan does not indicate that the treasurers as a rule are dishonest. The majority of them are honest. The new plan is simply based on sound business principles and if for no other reason, should be considered.

It is known as the school-auditorship or financial manager plan. A member of the faculty, preferably a man, since he has to make so many trips to the bank, is appointed by the principal to act as financial manager of the high school. At the opening of school during one of the first assemblies, he should outline the financial plans for the year. Each activity is to have its treasurer and the raising of all money by or for that activity is directly in his hands. That in itself makes his office an important and responsible one. When he has collected the money, he takes it to the school bank; that is, the office or room of the financial manager and deposits it with him. The treasurer is then released of the responsibility of the money, and the financial manager at once becomes responsible for it. The treasurer is given a receipt by the financial manager, which he makes out in duplicate, keeping one for himself. On this receipt will be the date, the name of the activity represented, the amount received, the name of the treasurer and the signature of the financial manager. The duplicate kept by the financial manager should then be placed in a pigeon-hole, properly labeled as belonging to the activity just represented. At the close of each school day, the financial manager should deposit in a local bank, all the money received by him that day.

There are two plans of depositing the money in the bank by the financial manager. One is to open an account for each activity and deposit to the account of that individual activity. The second plan is to deposit all high school organization money in the name of the financial manager and let him keep the individual activity accounts himself.

The first method is preferable because it is a splendid check upon the financial manager. Every month he can check up with the bank, comparing his balance in each activity with theirs, and if there is any difference, the error can readily be found.

On the other hand if all the money is placed in one fund to the account of the financial manager, he might make an error in his accounts and the bank would have no way of checking it up.

Whenever any organization desires to draw from its funds, the procedure is made in the following way: Regular orders should be printed having on them the date, pay to the order of so and so, the amount, the purpose for which the money is to be used, the name of the organization, a line for the treasurer's signature and a line for the adviser's signature. A check is then written for the amount desired, and the notation is recorded in the stub portion of the check book by the financial manager. The order just received is filed away in the proper pigeon-hole. All checks issued must be signed by the financial manager, and just above his signature the name of the activity upon which the check is to be drawn, should be written.

You will see at once that requiring the activity adviser or sponsor to sign the order before it is valid, is a check upon the treasurer drawing money unbeknown to the adviser. There is not much danger of a student treasurer forging an adviser's name on the order blank, because the financial manager soon becomes acquainted with the different adviser's signatures. An adviser should always sign his own name and should never tell the treasurer to sign his name for him. Otherwise, the financial manager might think that the treasurer is obtaining money unbeknown to his adviser.

The financial manager should keep his accounts balanced daily, so that any member of an activity can find out at any time what the balance is.

A school bank might be established in the commercial department to assist the financial manager. It could receive the money from the different activities and keep the separate accounts, but the financial business manager should be at the head of it. It would lighten his work, and at the same time, give the students who do work in the bank, an opportunity to become familiar with banking conditions. This bank could also receive the money from the members of the Savings Club, and then deposit it in the local bank to the account of the individual members.

At the end of each year or term, the financial manager makes a report to the principal or Board of Education as to the financial conditions of the high school organizations.

This financial method of taking care of the funds is also a splendid and business-like way of checking up the business managers of the high school paper and the *Annual*. The financial manager knows just how many subscriptions there are and how much advertising there is. Therefore, he knows just how much money should be turned over to him by the student business manager of the *Annual* and the high school paper. I have found that the student business managers take a certain delight in checking up with the high school financial manager, in order to let him see that everything is all right.

There has been a socializing effect in all this work. The treasurers come into touch with their respective organizations on the one hand and with the financial manager on the other.

When one considers that the amount of money raised each year thru the different activities, in some cases reaches several thousand dollars, the real value of using the above plan is seen.

RICE E. BROWN

EMPORIA, KANS.

IX

REVIEWS

(*a*) **First Book in Spanish**—By J. P. Wickersham Crawford. The Macmillan Company, 1919. 399 p. $1.20.

(*b*) **First Spanish Book**—By Lawrence A. Wilkins. Henry Holt and Company, 1919. p. xv + 259. $1.24.

(*c*) **Spanish Taught in Spanish**—By C. F. McHale. Houghton Mifflin Company, 1919. p. viii + 136. $1.00.

(*d*) **Easy Spanish Reader**—By Joel Hatheway and Eduardo Bergé-Soler. The Macmillan Company, 1919. p. xi + 386. $1.10.

All of these books are intended for school use and all have vocabularies. They are unusually free of typographical errors.

(*a*) In his *First Book in Spanish*, Dr. Crawford has made a valuable contribution to the study of this language. The forty-five lessons in the book present the elements of the language in a progressive and pedagogical manner. The lessons consist of: (1) numerous sentences exemplifying certain principles; (2) an oral exercise; (3) reading material in which those principles appear; (4) questions on the reading, for oral practise; (5) a theme based on the reading. For the most part the material forms a connected whole, thus facilitating the oral work and helping the student to think in Spanish. As there is an abundance of material all the recitation could be done in Spanish if the teacher should so desire. The volume has maps, a study on the verb and an index.

The chief features of this *First Book in Spanish* are the simplicity of presentation, the excellent choice of a practical vocabulary and the admirable sense of proportion.

(*b*) *First Spanish Book* is the first of two volumes planned for young students: the *First Book* is meant for use in the junior high school and the ordinary four-year high school. The book contains a preface, with useful hints for teachers, a chapter on pronunciation, accentuation and the like, thirty-eight lessons, 14 pages of composition, a chapter on verbs and a vocabulary. The lessons begin with a selection of connected prose which shows certain grammatical principles which the author then explains. This is followed by questions and exercises on the lesson. The study of the subjunctive has been left, possibly, for the second volume.

The vocabulary is well chosen and practical. The information that the student will get is, for the most part, interesting. Certain statements, however, will be questioned, as for example on page 60, "In Spain the serenos call the hour during the night. They say, for example: 'Eleven o'clock sharp!' 'All is clear!'" This is very charming but no longer true.

The chapter on verbs is short but to the point. The principal parts of the verbs that are irregular are given in a systematic order.

Thruout the book are many photo-engravings, drawings and maps.

(*c*) *Spanish Taught in Spanish* contains a preface and an introduction in English, thirty lessons wholly in Spanish and a vocabulary in which the English equivalents are given. The main feature of this book is that it carries no formal study of grammar—the student is left to his own power of observation or to the corrections of the teacher.

In this introduction to the study of Spanish the student is likely to get the impression that the language is extremely easy. The introduction contains almost four hundred words that are practically identical in the two languages; with few exceptions these words do not occur again in the lessons. The lessons deal with the usual vocabulary of every day. The main principles of Spanish are introduced in these lessons which consist of statements followed by answers or questions on them.

Most of the lessons are in the present indicative. The table of verbs gives only four tenses, one of them being the perfect tense. Irregular forms are given in the vocabulary, but apparently only those forms that appear in the text. From the vocabulary the student will imagine that such verbs, as "conseguir, merecer, obtener, pensar," and the like, are regular.

There are a few mistakes, mostly typographical errors. On page 12, line 5, the word "article" is not correct.

This little volume will be of great help to those who wish to get a rapid knowledge of the fundamentals of the language. The average teacher, however, will be prone to ask: "What is to follow these thirty lessons?"

(*d*) The authors of this *Easy Spanish Reader* have departed from the usual beaten path. Instead of giving selections from Spanish authors, or adapting short stories for classroom reading, they have written all the material themselves. The text is based on the incidents that take place between half a dozen school children and an ever present dog, for the space of one year.

The reader is divided into four parts, corresponding to the four seasons. The reading material is connected narration intermingled with the conversations of the children; it is divided into chapters at the end of which are to be found questions on the text and a few sentences for composition. In each chapter certain principles are emphasised by using heavy type wherever examples occur.

In the text the authors have included a little of everything, the school, the home and the country, thus introducing the student to an extensive and practical vocabulary. The arrangement of chapters will also serve as an excellent review of grammar or grammatical forms.

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Cardinal Principles of Secondary Education. A Report of the Commission on the Reorganization of Secondary Education appointed by the National Education Association. U. S. BUREAU OF EDUCATION, Bulletin. 1918. No. 35. 32 p.

The present Report on the Cardinal Principles of Secondary Education represents the collective opinions of a large commission that was at work on the subject for three years. It is a definite challenge to the conceptions of secondary and of liberal education that have prevailed since the subject has interested man. Discarding the antiquated notions of culture, based on the humanities in the broadest sense, the Commission sets out to devise new principles which claim to be based partly on the more recent contributions of educational psychology, partly on a desire to impart to secondary education values that will be more obvious and explicit to pupils and parents. That educational psychology is a helpful guide to the determination of educational values rather than of methods of teaching is an assumption made without any proof. The second reason proceeds on the theory that the expert shall make the diagnosis on the basis of the opinion of immature pupils and inexperienced parents and allow both to prescribe the remedy, a procedure that appears to be an abdication of the functions of the expert. Because pupils leave school thru dislike of certain subjects or thru economic pressure, such subjects are to be discarded to make room either for exploratory and prevocational courses or for special vocational preparation. The first reason calls rather for a more serious examination of the qualifications and training of teachers, the second for an investigation of methods for providing more adequate opportunities for retaining in school pupils who need more financial assistance than free tuition offers.

The new objectives of secondary education as defined by the Commission are health, command of fundamental processes, worthy home-membership, vocation, citizenship, worthy use of leisure, and ethical character. Altho these objectives are not listed in order of their importance, they inevitably call up Spencer's analysis of what subjects are of most worth, and, when the Commission goes on to prescribe specialized vocational preparation for the last three years of the reorganized six-year high school, the feeling can not be resisted that the other five objectives may fare badly. The Commission is opposed to the inclusion in the curriculum of subjects that have only "deferred values," but there is no reason to suppose that for boys and girls between twelve and fifteen the objectives of home-membership, vocation and citizenship are not equally deferred.

The functions of secondary education are declared to be specializing and unifying—the first aims to make the individual effective in vocations and other fields of human endeavor; the second aims to furnish those common ideas, ideals, and modes of thought that make for cooperation, social cohesion and social solidarity. To secure the first aim the schools are to offer as wide a range of subjects as possible to test and develop the capacities and interests of pupils; in the junior sections the pupils' aptitudes are to be explored (how many of 181 major occupations of the country will be brought to the pupils' attention is not made clear) in order to enable them to determine their education and vocation, while a large number of specialized curriculums differentiated on the vocational basis will be offered in the senior sections, but the pupils "must not be permitted to neglect preparation for citizenship and worthy use of leisure." In a similar program for high schools the Federal Board for Vocational Education permits 10 to 20 per cent of the time to be given to the last-named objectives. The bare statement that "provision should be made also for those having distinctively academic interests and needs" indicates the general bias of the Commission. The unifying function is to be promoted by means of social studies, the mother-tongue and literature, and the social activities of the school conducted under specially selected directors.

The Commission in its eagerness to exorcise the elements of the old and "aristocratic" type of secondary education hastens to democratise it by directing it in the main towards industry and commerce. It is more than doubtful whether the best method of democratising education is to give the pupil in the large city greater opportunities than the pupil in the small town or rural district. Not only will this principle bring in social stratification on a vocational basis, but it will tend to differentiate educational systems according to the industrial character of a locality. There is no hope from present tendencies that the "unifying" influences will prove very strong, even with the increased development of extra-curricular opportunities for "socialization" and "leisure occupations." Again, the pupils are to be taken into partnership to determine the course that suits them best, and, on the principle that no intellectual activity should be engaged in unless immediate results are attainable and measurable, and that no adventure be embarked upon whose goal can not be foreseen, the curriculums of the secondary school must "function" directly. The demand for efficiency borrowed from the world that deals with material things is to govern the educational process, with the result that the emotional and spiritual values in education, since they are not yet subject to tests or measurements, are relegated into the background or ruled out entirely. While insisting on the elimination of "deferred" values and on the principle of growth as a guiding factor, the Commission concentrates its proposed reorganization on the production of vocational skill in fields where the opportunities for growth are bound to be small.

The Commission in its preoccupation with its own immediate objectives has entirely ignored the developments of the past three years. More progress has been made in the field of vocational training during the war period both here and abroad than in much longer periods preceding it. For the large mass of workers the so-called vestibule courses offer the most suitable type of training, while for those in the more skilled trades the cooperative systems and the corporation schools have proved more successful than any other form of training. In both cases the individual with a good general education has been found to make the most rapid progress. This is true not merely of the artisan classes but still more true of the technical experts; everywhere the college-trained man has mastered in a short time the most intricate and the most difficult branches of military science. Further, the Commission has proceeded on the theory that the doctrine of formal discipline has been exploded, while recent studies tend to indicate that this subject is far from being as settled as it was thought to be.

The cardinal principles fail to furnish a sound basis for a liberal education in a democracy. The crying need today is not for intense specialization at the earliest possible stage; progress as well as democracy demands its postponement as late as possible, and the extension of advanced and general education. The recent reforms in England have indicated how the obstacle of economic pressure may be overcome by a wealthy community intent on offering genuine opportunities to all. Democracy can not progress if the schools hand over to it only tools and instruments narrowly specialized to do its work but unable to do its thinking, untrained to look beyond the immediate present. If the schools fail to develop intellectual habits and interests, to refine taste and cultivate judgment and appreciation, they must necessarily fail to impart that open-mindedness and breadth of vision that are more fundamental to the advancement of society today than specialized training of any kind. The facts affecting the individual well-being, health, the home, the economic and civic organization of society must necessarily find a place in the modern curriculum but they are only starting-points and not ends in themselves; they should be employed to stimulate intellectual curiosity not to dull it by restricting it to the "immediately functioning." This criticism applies of course to the high school as it is just as much as to its proposed reorganization. M. Caullery in his recent study of American universities refers to the high school as the weakest link in American system of education and speaking of the high school pupil he says, "He enters [the college] with his intellectual development but little advanced and with knowledge that is not knit together . . . And thus he arrives at the end of his high school course often with considerable gaps, even in his knowledge of English." The remedy does not lie in curriculums on current events and information on everyday commonplaces.

The terms "culture" and "liberal education" have acquired odious connotations, but Professor Dewey, whom the Commission would profess to follow, has rescued the terms and redefined them to suit the modern needs, just as he has issued a warning against the abuse of the vocational elements in school. "Any scheme for vocational education which takes its point of departure from the industrial régime that now exists is likely to assume and to perpetuate its divisions and weaknesses and thus to become an instrument in accomplishing the feudal dogma of social predestination." Not only does the Commission miss the cultural implications of the present, and profess to consider the past negligible, but it enunciates principles that will lead to a social stratification fraught with danger for the future.

It is fortunate, perhaps, that the *Report* under discussion comes as a challenge at a time when more thinking people than ever are devoting attention to education. Professional educators may bury themselves in masses of statistics and derive therefrom educational values based on economic and psychological determination. To those who are interested in democratization of education by raising standards because of a belief in the possibilities of the youth of the nation the cardinal, principles must serve as a call to reform from within by accepting the challenge of recent developments in educational psychology. There is undoubtedly much that can be improved in the teaching of the subjects of a secondary education and that improvement can be secured neither by insisting on the inherent values of the subjects nor by avoiding them and setting up new standards, but by more thoro and insistent attention to the selection, training and status of the teacher. But there is abundant evidence that older values are beginning to receive more rather than less recognition. "Heretofore," writes General Samuel T. Ansell in discussing the lessons of the war for education in the Harvard Bulletin for February 20, "the training of the army officer was largely of a scientific and mechanical kind; hereafter it will require more of the humanities . . . . I think the mechanical education must hereafter take a less important place in the curriculum of military training and be superseded to an appreciable extent by a study of the liberal arts, and sciences, and humanities." The momentous question in education that must be answered both by those who continue to urge the value of a general education as well as by the proponents of the cardinal principles has been so succinctly stated by Galsworthy in his recent address before the American Academy of Arts and Letters that nothing need be added to it: "I would ask what will become of our reconstruction in these days if it be informed and guided solely by the spirit of the market-place? Do trade, material prosperity, and the abundance of creature comforts guarantee that we advance towards our real goal?"

Moral Education, An Experimental Investigation. By WILLIAM J. WHITNEY. Boston: Leroy Phillips. 108 p.

Education and Social Progress. By ALEXANDER MORGAN. Longmans, Green & Company, 1916. 252 p. $1.20.

Democracy and Education. By JOHN DEWEY. The Macmillan Company, 1916. 434 p.

Between the three books included in this notice the only likeness is in the fact that education is treated in its social and moral aspects. In point of view, method of treatment and grasp of principles, they are hardly to be compared.

Mr. Whitney's hundred pages are devoted to a statistical study of the correlation between moral and religious training in the home, and deportment and scholarship in the school. In the undoubting faith that the truths of life being simple and universal and "therefore capable of exact proof," he desires to reduce to figures and curves the truth which he admits men have always known, that moral training in the home and church goes with more satisfactory conduct in school and life and results in better scholarship. His material "was obtained from a careful study of the home and school life of six hundred boys and six hundred girls in the elementary grades beginning with the last year of the primary school and including the eighth year of the grammar school." In spite of the interest which always attaches to attempts to make definite our common beliefs, one can not help wondering why the author feels that he has improved matters when he lacks any fixt scale of values either for the moral instruction or the resultant deportment and employs only the old percentage scale of scholarship. His results show that of 205 boys of "excellent" deportment, 86 have had "excellent" religious training, 83 "good" religious training, 22 "fair," and 14 "poor," and so on. All that this means is that the children of respectable families for the most part conform to the standards of respectable society—that society propagates its own kind, but this throws not the least light upon the real problem of moral education and furnishes no basis for the moralizing generalities of the latter part of the book.

Principal Morgan's book makes no profession of either experimental exactness or profundity, but is a clear and sane presentation of the significance of education for society and of society for education. After a somewhat perfunctory treatment of the factors in social progress we have an excellent account of the possibilities of education when taken in its larger social sense, illustrated mainly by conditions and movements in England and Scotland, but not without reference to what is being done in this country and in Germany. Vocational guidance, pre-trade education continuation schools, public health, day nurseries and social centers are discust briefly, but suggestively, and a plea is made for the centralization of all agencies in any sense educational under a single administration. As a brief summary of the social aspects of the new education, the book is perhaps as satisfactory a one as we have. What one misses, however, is a clear concept of the social end itself. We are imprest with the possibilities of education as a factor in progress, but for the meaning of progress we must look elsewhere.

In *Democracy and Education* this problem of ends is central and determinative. The book is described as an introduction to the philosophy of education, but the following typically condensed passage from the preface suggests that the term is unduly moderate. "The following pages embody an endeavor to detect and state the ideas implied in a democratic society and to apply these ideas to the problems of the enterprise of education. The discussion includes an indication of the constructive aims and methods of public education as seen from this point of view, and a critical estimate of the theories of knowing and moral development which were formulated in earlier social conditions, but which still operate, in societies nominally democratic, to hamper the adequate realization of the democratic ideal. As will appear from the book itself, the philosophy stated in this book connects the growth of democracy with the development of the experimental method in the sciences, evolutionary ideas in the biological sciences, and the industrial reorganization, and is concerned to point out the changes in subject matter and method of education indicated by these developments." Carrying out this program with generous exactness and with constant reference to his underlying philosophy, Prof. Dewey has given us no mere introductory textbook, but one of the profoundest treatises on education in the language. And altho it is concerned with principles and fundamental concepts, it is the outcome of so many years of experience and experiment that practical applications suggest themselves at every step. In spite of the abstractness and compactness of the exposition, the unity and concreteness of the thought are impressive. We are left with an almost startlingly vivid sense of the unity and inter-relations both of the aspects of the individual life and of the members of society. With the exception of Plato's *Republic* no work on education gives a stronger impression of it as a process by which life attains its greatest richness and wholeness. Its philosophy, pragmatic as it is, might, indeed, be called developmental Platonism.

The theses of the book are: that education is the process by which social groups maintain their continuous existence thru the transmission and renewal of meanings; that democracy is a progressive form of society in which, on account of the greater freedom of individuals, it is necessary that there should be developed in them, to take the place of custom, a consciously socialized interest; that the education necessary for such a free, progressive society is one which repudiates whatever perpetuates rigidly marked-off divisions in society and life and recognizes continuity—fundamentally the continuity of mind and environment-controlling activity; and that practically this must mean that education is not to be treated as a mental preparation for life, but as experimental living, as laboratory work in life.

The measures advocated would generally be termed radical, tho radicalism based upon an appreciation of history is hardly properly so named. No definite end or fixt standard of life is recognized other than the permanent appeal to life itself. Even study must have instrumental or immediate value for life. It is absurd to urge that Latin, for instance, has value in and for itself as a study, but it is equally absurd, he recognizes (*pace* some educational experts), "to argue that unless teacher or pupil can point out some definite, assignable, future use to which it can be put, it lacks justifying value. When pupils are genuinely concerned in learning Latin, that is of itself proof that it possesses value." The only aim education can have is making possible the control of life in the interest of its intrinsic values.

Did not limitations of space forbid criticism one might be tempted to question the underlying philosophy of the book and to suggest that the educational structure involved might not necessarily imply a pragmatic basis, unless pragmatism is the only sound philosophy of progress. But even such criticism, read differently, might itself be interpreted as approval since it would imply, what is indeed the fact, that this body of educational doctrine is not a deduction from a philosophic principle, but part of the reflectively organized experience of which the pragmatic principle is the final formula. NORMAN WILDE

UNIVERSITY OF MINNESOTA

X

NOTES AND NEWS

Land-grant colleges Bulletin 13, series of 1918, of the United States Bureau of Education, has the title, The Land Grant of 1862 and the Land-Grant Colleges. The report has been prepared by Benjamin F. Andrews of the Bureau with the especial purpose of explaining the disposition made by the various states of the original land grant of 1862, and of thus clearing up what is called an obscure chapter in the history of the institutions participating in it. The pamphlet contains the full texts of the Morrill Act of 1862; the Act of 1864, extending the time for accepting the grant; the Act of 1866, extending the time within which the agricultural colleges may be established; and the Act of amendment of 1883 concerning the investment of funds. The grants made to the forty-eight states and their disposition is given in detail, with a summarized tabulation of the actual conditions at hand under the Morrill Act on June 30, 1914. The Commissioner of Education in his letter of transmittal of the report to the Secretary of the Interior makes the following statement with regard to the Act and its educational value which is worthy of quotation:

"The Act of July 2, 1862, 'donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts,' led to the establishment of a group of higher institutions, at least one in each state, having direct relations with the Federal Government and dedicated to a common purpose. The purpose as stated in the Act was 'the promotion of the liberal and practical education of the industrial classes.' As translated in institutional practise it has meant the professional training of men and women in agriculture, home economics, and various branches of engineering.

"In most of the fields in which these colleges now give training, however, there was not in 1862 an organized body of scientific knowledge sufficient to furnish working material for courses such as higher institutions are expected to give. Before the common purpose which has informed these colleges could be partially realized, it has been necessary by research and experimentation to develop several sciences and to organize the applications of them into scientific professional curriculums. The land-grant colleges have contributed largely to the accomplishment of these things. Their efforts have led to the establishment of several new professions, to the stimulation of new achievement in both the great industrial fields to which they minister, to the higher training of numerous young persons who could not or would not have sought it in the older channels, and to the profound modification of both the doctrine and the content of higher education thruout the country. The influence which these colleges have had on the development of American life is perhaps the most far-reaching influence that has come from any educational source in the half century since the passage of the Land-Grant Act. Taken together, these institutions represent America's most distinctive contribution to higher educational theory and practise."

Report of United States Bureau of Education The report of the United States Commissioner of Education for the year ended June 30, 1918, consists of a statement of the activities of the Bureau of Education during the period in question, and a survey along interesting lines of the progress of education in the United States and its dependencies, and in England, France, Italy, the Scandinavian countries, Russia and Germany, in the last two years.

The work of the Bureau during the year, it appears from the report, consisted largely in efforts to maintain the schools and other agencies of education as nearly as possible at their normal efficiency under the abnormal conditions brought about by the war. The schools of the country, on the whole, suffered relatively little from such conditions. Very few were closed during the year, and there was apparently from the partial statistics gathered a larger attendance in both the elementary and the high schools than in the previous year, altho the total increase was less than normal. The Bureau actively cooperated, also, it is shown, with the various governmental agencies in various forms of war work done thru the schools, or that was of special interest to school officers, teachers and pupils. The Bureau was also engaged in its usual function of collecting information with regard to education thruout the United States.

The report notes, in detail, the growth of the Educational Survey movement, in which the Bureau has been largely called upon to participate by assigning members of its staff for the expert study of administrative problems. The effect of the war upon educational conditions forms an important part of the report, which discusses the contributions of the colleges to the government and relations established with the various governmental organizations. State boards of education or commissions, it appears, have been especially active during the last two years. In school administration one of the most significant features of progress during recent years has been the trend toward a unit of administration and support larger than the local district. The movement for industrial education, which culminated in the Smith-Hughes Act of February, 1917, providing Federal aid for vocational education came up for consideration in some of the states which had not previously acted upon it, and its provisions were accepted by the legislatures of Kentucky, Louisiana, Maryland, Rhode Island and Virginia. The report also summarizes educational conditions of the year in Porto Rico, Hawaii, the Canal Zone, the Virgin Islands and the Philippines.

A considerable space is devoted to a description, with more or less detail, of education during the year in question in the foreign countries already noted. In the case of

England, where only secondary education is considered, the statement is made that in the four years since the beginning of the war there has been an increased enrollment in the schools, accompanied with a widespread consideration of the aims and purposes of this phase of education. In France, the war, it is premised, has affected the conduct of education more than in either England or Germany. Changes brought about by the war in the position of women have made the reorganization of secondary education of girls a question of vital importance, and the new schools of various kinds that have been established for girls, commercial, industrial and technical, have led to a demand for a reform of the system of secondary education which as organized has been adapted chiefly for girls who do not prepare for any special career. In Italy, there has been in recent years a growing dissatisfaction with old forms of education, as is seen in the establishment of the so-called *scuole popolare*, the most far-reaching step taken in many years in Italian education, and in the reform of the normal schools. In the middle schools, beginning with the school year 1917–18, new courses of study and schedules, formulated by the ministerial council, went into effect. The Scandinavian countries do not seem to have been greatly affected by the war, whereas in Russia the entire system of education was uprooted by the revolution of March, 1917, and new conditions whose actual validity it is now impossible to determine were proposed. At the present time, and since the overthrow of the Kerenski régime in November, 1917, it is not at all certain that there is any education that can be remotely called a system in any part of the country. In Germany, to quote the report, the development of education during the past two years "must necessarily remain obscure until the sources of direct information are again opened up. From extracts and references here and there the educational situation does not appear to have been very happy, and, if reports may be trusted, the educational machinery so carefully built up seems to have failed at the crisis."

A much more comprehensive account of educational progress in this and all other culture countries of the world than is contained in this report, it is stated, will be given in the Biennial Survey of Education in the period 1916–18, to be published from the Bureau within the year, advance sheets of which in several instances have already been issued.

Winchester, Va., educational system The General Educational Board has issued, under the general title Private Endowment and Public Education, a report on the use of the Handley Fund, amounting to nearly two million dollars, which, it will be remembered, was bequeathed in 1895, by John Handley to the town of Winchester, Virginia. The will, which constitutes the City of Winchester residuary legatee, prescribed that the estate should accumulate under the management of the executors for a period of twenty years before it was turned over to the City of Winchester. It is specifically stated by the will that the income arising from the bequest is to be expended "in the erection of school houses for the education of the poor." The Board of Trustees, that was presently constituted, by the interpretation of the courts was permitted to apply the fund to the maintenance as well as the building of schools, and when the period prescribed by the will had elapsed the Handley Library was built and a free public lecture course maintained. The solution of the problems connected with the educational side of the bequest was found to be much more difficult and the General Educational Board was invited by the Trustees to make an educational and occupational study of Winchester and to suggest a plan of educational development. The present pamphlet embodies this report, which is a careful survey of the social and industrial conditions of Winchester itself, the schools as they exist and their present and prospective needs.

The conclusion arrived at by the report is that, as being in accord with the provisions of the will, the wisest use the Handley Trustees can make of the funds at their disposal is to cooperate with the people of Winchester thru their Board of Education in establishing a system of superior public schools. To carry out this procedure it is stated, as the fundamental steps, would be the necessity of arriving at a decision on the general plan, and choosing a high-class superintendent in sympathy with it. Decisions, it would appear, that are undoubtedly conservative and well-founded. The chapter on the needs of the Winchester Schools is interesting, both for its direct bearing on the problem at hand and for its formulation of the ends and aims of a progressive school system of the present day. The report recommends that in view of the best practise of such schools nothing short of a complete reconstruction of Winchester's schools will answer, if they are effectively to do the work that lies before them. It is pointed out, however, what we all know but which will bear constant iteration, that education as an art is constantly developing, and that even with a largely increased outlay, no system of public schools can be created which will suffice for all time. The suggestions, accordingly, of the report, it is stated, are meant to indicate the kind of educational organization and opportunity approved by competent contemporary thought. From this point of view, the whole report has much more than a local significance and should be widely read beyond its immediate environment.

Resources and standards of colleges of arts and sciences During the year 1914–1915, the United States Bureau of Education organized a committee made up of representatives of nine of the principal associations dealing with higher education, for the purpose of discussing the advisability of classifying the colleges and universities of the country on a national basis, and of determining the proper methods of procedure. This committee, subsequently, permanently organized itself as a committee on higher educational statistics to cooperate with the Bureau in the study of higher educational institutions, and decided to make a critical study which should show the resources and equipment, and, as far as possible, the educational and administrative efficiency of colleges and universities. Ultimately, as representing the largest class of institutions, and the only ones not subject to the test of professional competency, the committee determined that colleges of arts and sciences should be the first object of its study. Thus the initial report of the committee, which has been issued as Bulletin 30, series of 1918, of the Bureau of Education with the title, Resources and Standards of Colleges of Arts and Sciences.

To carry out its plan a questionnaire was sent by the committee to 500 colleges to which 252 replied, representing, accordingly, 50 per cent of the whole number. Mindful of the unsuccessful results of the attempts of the Bureau in 1911 and 1912 to classify the colleges of the country on the basis of an evaluation of their bachelor's degree, the committee in its report has suggested, instead, a statement of the proper requirements, as determined by their inquiry, that should be met by a successful college.

In accordance with the statistics gathered, it is the opinion of the committee that the minimum requirements should be as follows, the order being that of the thirteen categories of the report. A college should have an annual income of at least $40,000, three-fifths of which, if it is as small as this, should be expended for salaries. It should have a productive endowment of at least $250,000. It should have as many as eleven departments of instruction, in each of which at least one teacher should devote his whole time to collegiate instruction, some of the larger departments, of course, requiring more than one instructor. It should have a faculty of at least fifteen members. If it maintains an academic or preparatory department, this should be distinct in students, faculty and discipline. To insure the fact that members of the faculty have pursued graduate study in addition to their bachelor's degree, at least one-fourth of that body should hold the degree of doctor of philosophy, and at least three-fourths the master's degree. Fifteen hours' teaching per week should be regarded as a maximum program. Fifteen or sixteen credit hours a week for each student, for 36 weeks a year for four years, should be the normal program of work for students. Fifteen units should be required for unconditional admission. The maximum number of conditions should not exceed two. On account of the difference in living conditions, an absolute salary standard for professors and assistant professors can not justly be set up. Recitation sections should not contain more than from twenty to thirty students, and laboratory sections not more than sixteen. At least $1,000 a year should be expended for the purchase of new books and periodicals, and a similar sum should be annually appropriated for the purchase of new equipment and apparatus for scientific laboratories. The report further contains the full tables of statistics upon which its opinions are based, and incidentally sets up in this way an interesting comparison of the resources and equipment of one-half of the colleges of the country, as was no doubt the intention of the committee in thus presenting it.

The Classics in Great Britain As evidence of the interest taken by the British Government in the position of the ancient classics, it is announced that the Prime Minister has appointed a distinguished and very representative committee "to inquire into the position to be assigned to the classics, *i. e.*, to the language, literature and history of ancient Greece and Rome, in the educational system of the United Kindgom, and to advise as to the means by which the proper study of these subjects may be maintained and improved." The members of the committee are the following:

The Most Hon. the Marquess of Crewe, K.G. (*Chairman*).

The Very Rev. Sir George Adam Smith, M.A., D.D., LL.D., Aberdeen University.

The Rev. C. A. Alington, M.A., D.D., Eton College.

Mr. S. O. Andrew, M.A., Whitgift Grammar School, Croydon.

Miss M. D. Brock, Litt.D., Mary Datchelor School, Camberwell.

Professor the Rev. Henry J. Browne, S.J., M.A., National University of Ireland.

Professor John Burnet, LL.D., Ph.D., St. Andrews University.

Mr. T. R. Glover, M.A., St. John's College, Cambridge.

Sir Henry Hadow, M.A., D.Mus., Sheffield University.

Miss K. Jex-Blake, Girton College, Cambridge.

Professor W. P. Ker, F.B.A., M.A., D.Litt., University College, London.

Mr. J. G. Legge, Director of Education, Liverpool.

Mr. R. W. Livingstone, M.A., Corpus Christi College, Oxford.

Mr. G. A. Macmillan, D.Litt., of Messrs. Macmillan and Co.

Professor Gilbert Murray, M.A., LL.D., D.Litt., Oxford University.

Mr. Cyril Norwood, M.A., D.Litt., Marlborough College.

Professor W. Rhys Roberts, M.A., Litt.D., LL.D., Leeds University.

Mr. C. E. Robinson, B.A., Winchester College.

Professor A. N. Whitehead, Sc.D., F.R.S., Imperial College of Science and Technology.

Secretary, Mr. C. Cookson, H.M., Inspector of Schools.

EDUCATIONAL REVIEW

MARCH, 1920

I

A COLLEGE COURSE IN CLASSICAL CULTURE

In order to participate in a discussion the speaker or writer must be familiar with both sides of the question. We have read numerous articles bearing upon the consideration of the place of the classics in education, some of which purported to be written by those more or less acquainted with the studies, but the greater number of such papers have betrayed a personal intolerance and at times a persisent dislike on the part of the writer. The attacks on classical learning have come from those who bore a deep-seated grudge against some tiresome pedagog of student days, or from those who knew nothing whatever about the value of the studies they were attempting to attack, and who thereby manifested to an unpardonable degree their utter lack of the balance and poise which true education gives.

When, in a debate, the negative attacks the affirmative too vehemently, the opponent on his next appearance redoubles his defence, and often wins the decision in the mind of the judges. When, on the other hand, a speaker on either side acknowledges that he must concede a point made by his antagonist, one of two things may happen; the debate becomes weakened and one-sided, or by his granting the suggestion made by his opponent, while at the same time proposing a more feasible substitute, he who conceded may obtain the victory. In either event a more interesting debate is the result.

At the risk of weakening the case of the classics, the present writer has the courage to grant that his opponents (who shall be nameless and who may be legion) have done well in some respects in bringing the question forward for discussion, but at the same time he intends to propose a daring and yet safe substitute for the vagaries suggested by the anti-classicist.

One word more, however, before the last reading of the Substitute Amendment to the Anti-Classics Bill. This is a day when those who know least about a subject undertake to teach those who know most. The man in the street instructs the attorney; the patient, unless dangerously ill, ignores the physician's warning; the learned pew derides the lame pulpit; the man who knows no Greek condemns Greek; the indolent student who can not master a subject enlists his fond and irate parents in his cause against the teacher, and the helpless teacher, cruelly betrayed by a political school board, cuts the classics from the curriculum. It is time for those who know to speak; it is an appropriate occasion to hear from the classical teacher in school, college and university; it is only just that a clear statement of the case should be given by the authorities, by those who have studied, read, enjoyed, nay, lived Greek and Latin for a term of decades. Possibly those who know the value of the classics may be willing to divulge some things and, by conceding and substituting, allay a bitter strife.

The beginning of the study of the ancient language of the Greeks is laborious. It is hard for the student and hard for the teacher. The language, however, is elastic, facile, live, and can be made extremely interesting by a teacher possessing the same characteristics. Greek words appearing in our every-day speech, when brought to the attention of the eager student, rouse an unexpected enthusiasm. Be it biology, physics, mathematics or rhetoric which he is studying by the side of the Greek tongue, the live student is pleased and surprized to learn that the very name of each of those subjects is Greek and that every branch of science is filled with terms derived directly from that much-abused language. It is likely that our friend, the Anti-Hellenist, would have us translate these valuable and illuminating terms into "plain English" and call oxygen, for example, as the Germans do, "sour-stuff." There are some who still prefer oxygen. The student in his first year of a classical language not only finds the study difficult, but a little later in his progress, begins to weary of it, and so he slacks and then he shirks and finally seeks ways and means to avoid the laborious task. Why? Simply because the average boy, girl, man, or woman, does not like to work, does not enjoy mastering something which is hard; does not desire that strengthening of character which the surmounting of a difficulty involves; does not care, so long as the grade, the credit and a pass are forthcoming. By the second year, if the subject is a required course for the student, the classical teacher may as well prepare to encounter the "trot," the "handy literal" translation, the "crib," call it what you will, the dishonest method of getting a lesson. Again we query, why? Simply because laziness leads to shiftlessness and short-cuts. The surprize is that the indolent pupil develops into the ingenious deceiver. A student will spend twice the time writing in word for word a "crib" copied from a handy literal translation, that it would require to search in a lexicon for each word, the meaning of which he could not easily recall. A boy spent hours writing out the parts of some irregular verbs on the back of his textbook in a sort of ink which showed only in a certain light, and considered it a huge joke when his teacher, relieving him of the suspected work, overlooked the clever crib. A professor of Greek in one of our co-educational colleges recently stooped and picked up a book dropt by a young lady walking ahead of him on the way to class; the book was a handy translation of Sophocles' *Electra;* the young lady was the president of the college Y. W. C. A., she was to recite to the professor in the advanced course in Greek the next hour. He handed the book to her most courteously; his politeness was her punishment.

The crib habit is rife from the second year in high school to the senior year in college. The fault is not to be laid at the door of the teacher; it is the student who is entirely to blame, for the student fights against work, seeks the shorter road to the passing grade and the degree, and has not character enough, tho he may give a beautiful testimony in a Y. M. C. A. meeting, to avoid stooping to dishonest means to obtain a coveted end. So much for granting what our opponents may have suggested, an evil against which they most rightfully have protested.

Now, there is some value in the classics, even if the average student never reaches the point where he can appreciate it. Often a student, otherwise indifferent, will express a mental satisfaction derived from some point of style, historic fact, philosophic truth, or artistic merit mentioned casually by the instructor. Very few college students are planning to be grammarians, even that need not cause deep regret; he who will be a grammarian, let him be a grammarian still. He will undoubtedly "settle *hoti's* business and properly base *oun*," but he will continue, as he has in the past, to spend all his time on the language and miss the thought and the beauty for the words and the forms. Too often the teacher drops in such points as those mentioned above only too casually, too often the wily student, who hopes he will not be called on, leads on the indulgent professor to give further light on the interesting topic. But the content and the thought are, after all, the best part of any literature, and nothing is alive which is not suggestive and stimulating. Better let the professor err on this artistic side than on the other. Few will become grammarians; all should be given the opportunity to become cultured; all should be made familiar with the truth, the beauty and the light to be gained from a real acquaintance with the great minds of old.

The classicists have been accused recently, and very justly, by a leading college president, of not valuing their heritage; they have given over to others the greater and more important parts of that which was in their keeping; they have become nothing but philologists, linguists, busying themselves only with the actual language, leaving to others the various portions of a complicated study of the development of highly civilized peoples. This is a most timely criticism. The classicist today is not concerned with the history of Rome and Greece; he does not occupy himself sufficiently with the great philosophies which the ancient world has given us; he leaves the art and architecture to other specialists; in short, he has only one string to his bow, and that, the language. Recent doctoral dissertations bear out this judgment. A thesis to be learned must be dull; it is compiled to be written, not to be read.

So then, with the cribbing evil on the one hand, and the pedagog evil on the other, let us propose a substitute for all of the new methods of the teaching of the classics; let us not make them inductive, or Montessori, or Gary, but let them be made the living vehicle of a greater inspiration; let the teacher of the classics cease to talk about it and begin to live the culture and civilization of Greece and Rome if he is to be of any value in helping us to understand life.

In the colleges then, particularly, let there be established instead of the old departments of Latin and Greek, a department of Classical Culture and Civilization, manned by souls who have drunk deep at the springs of the ancients. And while opportunity should be given for the study of the language in the original, it is the belief of the writer that better results will be obtained in the courses other than linguistic, for two reasons: the crib will be eliminated, and the cultural will be strest. The outline of a four years' course in both Roman and Greek culture would be about as follows:

DEPARTMENT OF CLASSICAL CULTURE AND CIVILIZATION

GREEK

I. *Freshman or sophomore year.*—Greek History and Life. Geography of Greek lands. Interpretation by the instructor of early inscriptions. Reading, in translation, of early historical sources. Study of selected portions of the works of Herodotus, Thucydides, Xenophon and Strabo, in the best English renderings. Assignments in such standard histories of Greece as Grote, Curtius, and Botsford. Lectures, and outside readings in Seymour's *Life in the Homeric Age;* Jebb's *Homer;* Gladstone's *Homer;* Mahaffy's *Old Greek Life;* Tucker's *Life in Ancient Athens.*

II. *Sophomore or freshman year.*—Greek Literature in English. A detailed study of the various types of Greek literary style, with some account, in lectures, of the lives of the most important Greek men of letters. Reading and discussion of the best English renderings of Homer's *Iliad* and *Odyssey;* the chief dramas of Aeschylus, Sophocles, Euripides and Aristophanes; the Odes of Pindar; the orations of Demosthenes; the *Republic* of Plato. Study of such textbooks as: Wright, W. C., *Greek Literature;* Wright, J. H., *Masterpieces of Greek Literature;* Capps, *From Homer to Theocritus.* Constant reference to such works as those of Christ, Croiset, Decharme, Lang, Pater, Mackail, Jebb, Butcher, Gildersleeve, and other leading authorities in special fields, *Oxford, Loeb* and *Golden Treasury Translations.*

III. *Junior or senior year.*—Greek Archaeology. A course consisting of lectures, recitations and reports on required reading. General introduction to archaeology, and the earliest Hellenic civilization. Architecture, sculpture, vase-painting, gems, terra-cottas. Detailed study of Athenian topography and the results of recent excavation in Greek lands. Use of textbooks such as Fowler & Wheeler's *Greek Archaeology;* Marquand's *Greek Architecture;* Richardson's *Greek Sculpture* and constant reference to the larger works of such authorities as Perrot & Chipiez, Baumeister, Darenberg & Saglio, Collignon, Frazer's *Pausanias,* Gardner, P., Gardner, E. A., Tsountas & Wayatt's *The Mycenean Age,* Walters, Pottier, Reinach, Weller and others.

IV. *Senior or junior year.* Greek Philosophy. Lectures and readings from the remnants of the earliest Greek philosophers from the complete translated work of Plato and from the best English renderings of the works of Aristotle. Use of such a work as Bakewell, *Source Book of Ancient Philosophy*, as a text, and required familiarity with Jowett's *Plato;* Vaughn & Davies, *Republic;* Bywater, *Aristotle's Ethics;* Benns' *Greek Philosophers;* Windelband, *Plato;* Fairbanks, *The Earliest Greek Philosophers;* Zeller, Gomperz and other similar authorities.

LATIN

I. *Freshman or sophomore year.*—Roman Life and History. Geography of the Roman state, empire and colonies; reading of important political inscriptions; some account of the Italic peoples; reading in the best English translations of selected books of Caesar, *Gallic and Civil Wars;* Livy's *History;* Tacitus, *Annals and Histories*, *Germania* and *Agricola*, and the character sketches of noted Romans as given by Nepos and Plutarch. Acquaintance with the monumental histories of Rome, such as Gibbon, Mommsen, and Merivale. Bekker's *Gallus*. Study of the public and private life of the Romans, in connection with the latter, the reading in English of the *Letters* of Cicero and of Pliny. Abbott, Dill, Fowler, Church, Marquardt and others.

II. *Sophomore or freshman year.*—Roman Literature. Lectures on the three great periods of Roman literature—the Republican, the Augustan and the Silver Age, with illustrative readings from the best English translations of the works of Plautus, Terence, Catullus, Cicero, Lucretius, Caesar, Vergil, Horace, Tibullus, Propertius, Ovid, Livy, Tacitus, Juvenal, Persius, Petronius, Martial, Apulieus. Texts and books of reference: Laing, *Masterpieces of Latin Literature;* Mackail, *Latin Poetry;* Tryell, *Lectures on Latin Poetry;* Boissier's *Cicero;* Masson's *Lucretius;* Boissier's *Tacitus;* Munro's *Lucretius;* Seolar's *Poets of the Republic*, and of the *Augustan Age;* Butler's *Post-Augustan Poetry;* Kirby Smith, *Tibullus* (introduction), the handbooks of Cruttwell, Fowler, Teuffel, and other works of equal value and merit. *Oxford* and *Loeb Translations.*

III. *Junior or senior year.*—Roman Philosophy. Lectures on Greek Philosophy as the background of Latin scientific thought. Consideration of the philosophic portions of the works of Cicero, in English translation. The Epicurean Philosophy of the *De Rerum Natura* of Lucretius; Horace's philosophy as seen in his *Odes* and *Satires*, together with philosophic tone and purpose of the satire as a department of literature. Stoicism as exhibited by the works of Seneca. The Roman Emperor-Philosopher, Marcus Aurelius Antoninus, reading of his work—*To Himself* in Loeb translation.

IV. *Senior or junior year.*—Roman Archaeology. Topography of Rome with special study of the Roman Forum; the results of excavation at Pompeii and other important sites. Early Etruscan and Republican architecture. Roman architecture of the Empire. Wall-paintings, Etruscan vases, and gold work. The Etruscan tombs. Introduction to early Italian Art. Use of such a textbook as Platner's *Topography and Monuments of Ancient Rome*, with reference to Frothingham's *Monuments of Christian Rome;* May, *Pompeii;* Huelsen's *The Roman Forum;* Middleton's *The Remains of Ancient Rome*, and the works of Janciani.

If one carefully considers this plan, it will readily be seen that the student may obtain during his college course four years of study in the field of Roman and Grecian culture. Or, he may specialize in two years of Ancient History, Ancient Philosophy, Classical Art and Archaeology, or the literature of Greece and Rome.

It is the writer's firm conviction that apart from the intrinsic value of such a course of study, the inquiring student (and hence the desirable student from the teacher's standpoint) will be thereby directed to an honest and thoro-going study of the languages, so that he may gain for himself, from the original sources, a more nearly complete understanding of classical culture and civilization.

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II

THE KEEPERS OF THE CITY

In one of the sacred books of the Hindoos there appeared the question "Who are the keepers of the city?" and the reply was "The teachers." In these few words the wise old Hindoo philosopher epitomized the true significance to society of the work of the teacher in moulding the character of the coming generation.

The pioneers in American education were no less keenly alive to the civic usefulness of the work of the teacher. Before there was any organized educational system in this country, men like Horace Mann and Henry Barnard created a demand for free public education by preaching thruout New England the doctrine that universal education is the inalienable right of free people, and is essential to the state to prevent poverty and crime; to promote industrial and scientific pursuits; and to preserve American ideals and institutions.

At the close of the Civil War, the admission of four million slaves to citizenship focust attention sharply on the political expediency of compulsory education at public expense. The situation was presented in a most forceful manner by James A. Garfield of Ohio, subsequently President of the United States, in his speech in support of the bill to establish a national bureau of education. Referring to the enfranchisement of the slaves, Mr. Garfield said in part:

"Such is the immense force which we must now confront by the genius of our institutions and the light of our civilization. How shall it be done? An American citizen can give but one answer. We must pour upon them the light of our public schools. We must make them intelligent, industrious, patriotic citizens, or they will drag us and our children down to their level."

In the half century succeeding the Civil War, a vast multitude of immigrants flooded our shores, many absolutely illiterate, and it was largely due to the effectiveness of our public school system that their children developed into sturdy Americans, ready and willing when the need arose to champion the cause of freedom and democracy.

The reaction, inevitably following the World War, is subjecting our civilization to the greatest strain ever imposed on it. But one of the results of the war has been to demonstrate the power of ideas, proving that material force, no matter how highly organized, must eventually yield to patriotic and Christian morale. It has therefore become more clearly apparent than ever that in order to develop and maintain American institutions, and promote the great Anglo-Saxon ideals of community life and personal integrity, we must rely on the forces of intelligence and right thinking. To combat the insidious propaganda of class prejudice and special interests, a counter-propaganda must be developed thru public instruction both in and out of school. Our educational program must aim primarily at the conservation of American institutions, ideals and manhood. This means first of all that it must look to the wholesomeness and completeness of life, and particularly to the upbuilding of the home and family relations, that out of a love of home and country there may develop a more complete national unity, willing to share losses as well as gains, and facing the future pledged to one country, one flag and one language.

There are many convincing arguments at the present time in favor of individualism in education as contrasted with specialization. By individualism in this connection is meant that type of education which aims to give each child such control of his faculties that his possibilities of growth and development may be limited only by his own efforts and capacity; while by specialization is meant education of children *en masse* for special pursuits regarded as essential to the material welfare of the state; in other words, the creation of industrial classes.

The most convincing argument for individualism is that furnished by the unparalleled development of American life and resources during the last half century. American intellect is distinctively creative, so much so in fact that American ingenuity and resourcefulness have become proverbial. The reason is evident, as the inventions which have revolutionized modern life are practically all of American origin, notably the telephone, telegraph, electric light, electric traction, the steamship, the sewing machine, the cotton gin, the linotype, harvesting machinery, the submarine, the armored battleship, the machine gun, the tank and the aeroplane. In business organization and management American ability is no less conspicuous; in social service such organizations as the American Red Cross and Y. M. C. A. have established new records for efficiency; while the American plan for a league of nations marks the limit of political enlightenment. This characteristic American development is by no means the result of chance, but is clearly due to the freedom of individual initiative possible only in a democracy. Ever since America was colonized, the most self-reliant and energetic individuals of all nationalities have migrated to this country to realize here the opportunities for self-development denied them in countries where the destiny of the individual was controlled by the state. The result amply justifies the effectiveness of republican institutions.

On the other hand, the most cogent argument against specialization in education is the collapse of the German Empire. For years preceding the German debacle, intelligent men perceived that their highly developed type of specialization was only effective when dominated by a strongly centralized authority, and that in a republic such specialization would menace the intelligent conduct of the whole body politic. The German educational and social creed was and is that the whole duty of man is limited to the observance of positive regulations. This view undermines the moral sense, reduces social service to a mechanical process, and represses individual initiative, without which there can be no intimate sense of personal responsibility. The inevitable result of this attitude was that notwithstanding their boasted culture and efficiency, when the apparatus of government fell apart, the German people found themselves almost as far removed from national ideals and the self-restraint essential to popular government as the illiterate Russians.

Here in America our educational program was overshadowed for years by the prestige of German methods and efficiency. This was largely due to the influence of educators, usually native Americans, who had studied in German universities, and returned to proclaim the superiority of German scholarship and educational method. Doubtless these men were more or less sincere in this propaganda, as many of them brought back German wives as well as degrees, but if they had been less obsest by German pretensions they could not have failed to perceive that German intellect has always been adaptive rather than creative. This is clearly apparent in scientific as well as industrial lines. In fact, half a century ago France stood foremost in scientific thought, and the mathematical and scientific reputation of the Germans is due chiefly to the fact that for fifty years they have systematically imprest their own personality on the intellectual creations of others, and acclaimed the result as a triumph of German scholarship. Fortunately we are at length free from the incubus of German authority, and at liberty to create a purely American educational precedent.

As education must be the chief agency for preventing social unrest, the great problem confronting us today is the education of the wage earner. In a democracy like ours, the school system must be flexible and adaptable to local conditions in order to secure equality of educational opportunity. Sound pedagogy as well as the more practical consideration of local financial support, alike demand that the curriculum of the school shall be directly related to the life of the community. This may take various forms, such as industrial or agricultural education, or other forms of technical and vocational training, but whatever form it may assume, provision must be made in each case for the development of broad social qualities such as interest in work, ideals of workmanship, and a sense of personal responsibility for results.

This need seems to have been recognized by labor itself, as several years ago the American Federation of Labor put itself on record as follows:

"If the American workman is to maintain his high standard of efficiency, the boys and girls of the country must have an opportunity to acquire educated hands and brains such as may enable them to earn a living in a self-selected vocation, and acquire an intelligent understanding of the duties of good citizenship."

A similar creed was also formulated by the late John Mitchell, in the brief statement that

"Boys and girls need a training which will enable them to earn readily and honestly good wages, and to spend wisely."

The educational platform presented in these statements evidently does not confine itself to a narrow and specialized industrial training. Its purpose is to secure recognition of the dignity of labor, and of the necessity for practical information, experience, and industry in the attainment of a well-rounded individual development.

The most obvious requirement for teaching is a thoro knowledge of the subject taught, altho perhaps equally important is skill in the art of presenting ideas clearly to others. There is one factor in successful teaching, however, which is frequently overlooked because it is purely psychological. This is a sustained enthusiasm of the teacher for his work, and an inspiring concept of teaching as an essential form of public service.

In the early history of this country, teaching was generally regarded as a means to an end, and many young men of very limited pedagogical qualifications taught school and "boarded 'round" for a year or two until they had saved enough to study law or theology. Today teaching is itself a learned profession, but to develop it to its highest efficiency, it is imperative that those who choose it for a life-work shall have the highest ideals of its duties and responsibilities.

Those who have been most successful in teaching have always been animated by this high ideal of service. Horace Mann when entering on his duties as director of public education uttered a prayer for "An annihilation of selfishness; a mind of wisdom; a heart of benevolence:" and in his diary wrote, "What a thought to have the future minds of such multitudes depending in any perceptible degree upon one's own exertions. It is such a thought as must mightily energize or totally overpower any mind that can adequately comprehend it."

Doubtless most young teachers enter their chosen work with more or less enthusiasm for it. But teaching is a most exacting business if it really aims at the mental development of the pupil. The effort required to call another mind into action, and constrain it to follow a definite line of thought demands greater will-power and mental force than almost any other form of labor. Such intensive effort can only be sustained for a limited time, with the result that the average teacher gradually substitutes the machinery of method for the power of his own personality.

A prominent business man recently said that the mind is like a pool of water. It must be fed by fresh streams from without, and also have an outlet to keep it in motion, or it will become stagnant. The inlet is the activity of the mind in seeking new ideas, and the outlet is the action in which each individual finds expression. Perhaps it is truer to the mark as regards the teacher to say that the mind is a living organism which requires both food and exercise to keep it healthy and efficient. The vitality of the teacher is therefore, after all, the fundamental problem of pedagogy, as it sets the upper limit to the pupils' development. Many teachers seem to recognize this instinctively by spending their vacations in travel, and undoubtedly this annual freshening of ideas and physical relaxation greatly increases their efficiency and prolongs their period of usefulness.

The chief need is a more general recognition that real teaching is dependent for its effectiveness on the personality of the teacher, and if it rises above mere routine is a higher order of effort than that concerned with inanimate objects. Instead of regarding the business of teaching as essentially narrow and "academic," adequate provision should be made for broadening the mental horizon of the teacher, and maintaining his efficiency on a high level. To this end the pay should be adequate, the teaching periods moderate, and all administrative work reduced to a minimum. Moreover, the value of the teacher's work should receive public recognition, and the teacher should be encouraged to engage in outside activities, especially those which will put him into close and sympathetic touch with practical affairs. No teacher can be a live wire if he is cut off entirely from the energy that drives the world and restricted to the narrow sphere of youthful interests.

To broaden as far as possible the actual teaching routine, it might be advisable to shift each teacher regularly upwards and downwards thru the grades and high school, allowing each teacher to remain in the same grade for not more than two or three years. This would certainly broaden teaching experience and freshen interest by frequent change of subject and environment. The question of pay under this arrangement would naturally be based on length of service and general attainment, and not on the grade taught. As a matter of fact, the lower grades should command the best teachers, as the earliest years of a child's life are the most important from a pedagogical standpoint.

Most pedagogical efforts are concerned primarily with improving the machinery of instruction. While this of course is highly desirable, the chief need is to make the service attractive to the highest type of intelligent and public-spirited men and women. It has been well said that effective service can only come from a full-orbed manhood or womanhood enlisted in the service; men and women who from their enlarged powers of mind and heart can not only contrive the means to meet the immediate necessities of instruction, but from their large range of spiritual life, feel the real needs of the life they seek to unfold.

Education in any form is the conscious effort on the part of mankind to better his condition. To the average man this means getting on in the world; that is, the betterment of his physical condition, and the freedom of action that comes from wealth and influence. This purely utilitarian aim has its place in building up any material civilization, and it is natural that mankind should be more conscious of the struggle to make a living than of the higher ideal of making a life. But the world has recently entered on a new phase of existence in which the barriers of wealth and position have largely been broken down under the pressure of the common needs of humanity. The ideal of service has assumed preeminence, and it is becoming more and more apparent that society, to be stable, must rest on the basis of personal integrity, and intelligent thought and action.

To fully meet modern needs, therefore, education must be not only practical but personal. That is to say, it must not only impart information but also develop the power of independent thought, and stimulate worthy ideals of action. How to attain unity of method in accomplishing these aims is the great problem of modern pedagogy. This may not admit of any fixt solution, but it is possible to state a few fundamental principles which must always underlie good teaching.

The first of these is that the whole problem of teaching must be approached from the standpoint of the welfare and possibility of the child, rather than from external considerations such as the apparent utility of particular subjects. In fact, educational utility must be clearly distinguished from commercial utility.

The second is that the process of teaching must consciously aim to produce mental experience in the child for the purpose of mental development. To accomplish this, the mind of the teacher must come into vital contact with the mind of the child, and think with the pupil towards some definite goal. This means, in a sense, that the teacher builds his own thought structure into the mind of the pupil, and its educative value therefore depends largely on the clearness of thought, breadth of experience, and strength of character of the teacher.

The third principle is that any formal method, if given as such, defeats the aim of education. In the first stage of the learning process the pupil should be led to observe individual objects, and note similarities and differences; that is, to discover individual attributes. In the second stage he must be led to note relationships between individuals, and discover unity in diversity; in other words, to rise from the individual to the general. Finally, in the third stage he must be led to formulate general laws and return to the individual as a specific expression of a general principle. In completing this round of mental activity the pupil experiences that unity with the subject which is the basis of interest. This form of interest is of real educative value, and should be distinguished from the popular substitute for interest as found in various forms of entertainment.

If teaching is limited to the application of rules and formal processes, both the practical and educative aims of instruction will be missed, for the memory can not long retain an array of unrelated facts, and when once lost the mind has no means of reproducing them; whereas if the mental process is made the chief consideration, both aims will be attained, for the mind will have acquired that freedom of action and confidence in its own powers essential to success in practical affairs, as well as the ultimate basis of self-respect and fullness of life. Any process which is best for developing the mind of the pupil is also best for practical purposes, for a pupil trained to use ideas will solve a far greater number of practical problems in a given time than one trained to use an empirical method.

A simple illustration may serve to make clearer the nature of the teaching process. Evidently an aeroplane is the embodiment of an idea. Of course each individual aeroplane has a concrete and objective reality, but if all aeroplanes in existence were suddenly destroyed, the idea of an aeroplane would reproduce as many individuals as desired.

The idea is therefore the abiding reality rather than its objective manifestation.

The true ideal of teaching therefore, however hard to realize and distant it may seem, is to build a ladder such as Jacob saw, resting on the hard facts of daily life, and reaching upward to the reality of ideas as embodied in natural and spiritual law. Up and down this pathway the child must be led if his education is to be made practical and utilitarian in the broadest sense.

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III

THRIFT-TRAINING IN EDUCATION

Until recently, Americans were little concerned with any thought of how to conserve their resources, either individual or national. A prosperity brought about by the creative genius of the people and by the abundant natural wealth of the country had resulted in our undervaluing time, energy and income to the extent that we were ranked as the most wasteful and extravagant of all the civilized nations.

Thoughtful people, who foresaw the end of our bounteous resources and believed as President Wilson has so well exprest it that "provision for others is a fundamental responsibility of human life," attempted to develop a spirit of true national thrift in order that the prodigal use of our abundance might be checked. A policy of conservation was undertaken by our federal and state governments resulting in legislation for the protection of fish and game, for the more economical use of our mineral wealth and for the reserving of the forests—forests which would save the beauty of the country and the timber supply for future generations, and at the same time help to prevent the erosion of the soil and the drying up of the streams. The general discussion following this legislation evinced the fact that national responsibility for the conservation of the nation's resources could best be furthered by training the individual in the principles of economy and good management, which would lead him to appraise correctly life's values and to practise the principles of thrift in the use of his resources.

In order to train individuals in the right habits of conservation, it is necessary to begin with the youth of the nation and into the public school curriculums are gradually being introduced subjects vitalized by their close connection to the real problems of life—such subjects as are of inherent value because they do not "lead to a dead-end" when pupils finish school but continue to be of service in helping out future citizens to meet, with some guarantee of success, the personal and social duties which life itself imposes.

Too long the schools had followed curriculums created for the leisure classes, when mental discipline and artificial culture were the chief aims in education, and when the trades were looked after by those skilled in the school of apprenticeship. When the introduction of machinery centralized population the old apprentice system ceased. Education became more general but the schools went on educating for leisure and emphasizing only the cultural side of life until the untrained workman lacked the proficiency and skill of the old artisan and the divine joy of labor was lost, the trades were looked down upon; the professions became overcrowded, and more disastrous yet, an antipathy for real work developed. Today in the public schools, instead of reciting in rhymes and metaphors, pupils are receiving valuable training and experience in subjects that help to insure success in life.

Perhaps no more vital thrift-training can ever be given to pupils than that resulting from the constructive program, recently introduced into the schools for the conservation of health. This nation-wide campaign for developing the physical well-being of the boys and girls is helping to remove the great factor in destitution and ill health. Marked attention is being given to correct posture on which health and efficiency so directly depend, while practise in the best forms of physical exercises and instruction in personal hygiene and public sanitation are strengthening the bodies, improving the minds and morals of the pupils and elevating the health ideals of the communities. This work in health conservation is doing much to prevent illness and to prolong life. In Switzerland where good health has long been recognized as a national asset, the average length of life is over fifty years, while in India where little attention is given to matters of health, the average length of life is twenty-five years. In our own country the average has already been raised from thirty-five years to thirty-nine years.

Who can estimate the economic value of training individuals to obey the laws of health? School physicians and school nurses are pointing out such physical handicaps as adenoids, uncared-for teeth, imperfect sight and imperfect hearing. As these defects are remedied, the school work of such pupils improves. Thus the number of repeaters in the grades is diminished resulting in the saving of time and of cost for the individual and for the state.

Athletics in the schools is beginning to assume an entirely new aspect. Instead of an overtrained few struggling for records and trophies, as was the previous custom, the aim now is to develop the health and character of each student and to give pleasure to all. The most dangerous time for the youth being his leisure, the public schools are taking the matter of vacations seriously. Lectures, reading courses and summer schools are planned in order to give the pupil a chance to make the right use of his free time. Play grounds with supervised recreation and school buildings as centers for community and welfare work are in constant use. These crusades for health conservation and organized leisure are emphasizing the basic elements of thrift.

The public schools are performing another great service thru the medium of school savings banks. The number of these banks is rapidly increasing thruout the country and their influence for thrift is being strongly felt. Real banking methods are generally used and the children are receiving valuable training in business-like ways as well as practical experience in habits of economy and self-denial, most essential in the formation of character. In seven years, the pupils in the grade schools of Minneapolis have saved over $350,000. In Rochester, New York, the school children have invested $75,000 in Liberty Bonds. This large sum represents school deposits made in less than two years. School banking is entirely voluntary and the pupil must succeed thru his own efforts. Thus is developing a sense of responsibility which leads to wise spending and trains away from extravagance of all kinds. The surprizing accumulation of systematic saving tends to make children industrious as they often add to their accounts from the earnings of leisure hours. In many homes the first idea of how quickly small sums accumulate is given by the children, and the parents begin to practise saving. Waste is checked and many permanent bank accounts are opened by the parents. Thus the children are not only forming thrifty habits of lasting benefit to themselves, but many of them are doing a great work for the very poor by showing how conditions will improve when the principles of thrift are practised in the homes.

Domestic science is a subject which is preparing the girls to do their part in life well. Cooking is now taught in so practical a way that concrete results are obtained and the girls are helping to solve the problem of the family needs. Stress is being laid upon careful marketing, economy of material and the wise planning of meals. Food values are taught and when undue demands are made for certain foods, resulting in a high price, the girls know how to substitute other foods equally nutritive, and by introducing varieties of foods they are able to overcome family prejudices and to utilize all kinds of good foods. Careful buying and elimination of waste substantially reduce the household expenses. Sewing is becoming even more practical than formerly. Now it includes not only the making of garments and the using of patterns but the knowledge of textiles and the selection of fabrics, as well as mending, darning and renovating passé garments.

The reckless waste of natural resources, great as it is, is trivial in comparison with the tremendous loss resulting from the fruitless expenditure of human energy. Most failures in life are due to vocational misfits. Many men and women willing to give their best have never succeeded in life because they entered into chance occupations without giving any consideration to their natural aptitude for the work. The schools of today are doing much toward solving this problem of vocational misfits. Special attention is given to the physical characteristics, the disposition and the natural ability of the pupil in order that he will prepare for the life-work in which he is most likely to succeed. Many of the pupils are directed to continue work in the vocational schools. These schools now include not only the professional branches but the commercial and the trades courses as well, and open such a variety of channels as to furnish opportunities for the development of almost any type of mind. Other pupils, who are obliged to leave school, are given opportunities for further preparation for their work thru the help afforded them by college extension courses and continuation schools. College extension courses are now spreading the culture that was formerly confined to the college campus, and students thousands of miles away are reaping the benefits of college extension education. The continuation schools afford great opportunities to a large class of boys and girls who, having gone to work early, begin to realize a need for further education. In thirty-five states, notably in Wisconsin, these young wage earners are attending these schools for not less than five hours a week. They are given instruction suited to their individual needs and credit is allowed for work done both in the school and in the factory or shops, thus combining the advantages of the school work with the actual employment and making these future citizens better producers, higher wage earners and economists in time, energy and material.

Then, too, the rural school is doing its share in this movement for thrift-training in education. Formerly people in the rural districts who wished to educate their children beyond the elementary grades were compelled to leave the farms in order to do so. Now consolidation of rural schools with free transportation is making it possible for every child to obtain a modern high school education without going to the city. Rural schools are beginning to give instruction in nearly every trade that is needed to supply or repair articles for the home or about the farm. Teachers' cottages and demonstration farms, which are fast becoming part of every rural school property, are attracting the best teaching talent to the country. These model school homes such as are found in California, with their complete, attractive and inexpensive furnishings, are vital object lessons in thrift, good order and beauty. Practically all the schools are now teaching agriculture and showing how to make use of state and government aids. The extension work in agriculture now done by the United States Department and by state colleges is bringing results. The best land is no longer allowed to go uncultivated for lack of proper drainage. Education, too, is making culture and comfort more general in agricultural districts. Labor- and time-saving machines are used; modern conveniences are introduced, and more attention is given to beautifying the home and its surroundings. The economy of rotation of crops, the introduction of new products and the proper storage and canning of all surplus fruits and vegetables are also taught. Right rural schools are doing more than anything else for the welfare of this nation.

Fully appreciating the practical development that schools are making along the line of thrift, still one is forced to admit that many readjustments will be necessary before the desired results are obtained. More attention must be given to pupils who interfere with team work. All possible talent, sympathy and encouragement should be showered upon them in order to develop self-control, self-respect, and the habit of having something expected of them. All teachers agree that more than one-half of the pupils, branded by the schools as deficient or vicious, may become self-supporting citizens, leading useful and happy lives, if our segregation schools, instead of being punitive, could be made models. The real thing after all is growth and achievement, never destruction, and the corrective schools should not only have expert teaching but the best possible equipment. These pupils with habits of industry and with vocational guidance should be hurried along and placed in suitable occupations or in vocational schools where they can find themselves. The problem is a simple one in economics. This element, formerly a waste product of the schools, when properly conserved will become a most substantial unit in the building up of a great state.

Education to be most valuable must train pupils in habits of good judgment and right choice so necessary in making almost hourly decisions. A proper knowledge of the right values in life will emphasize the wisdom of diminishing one's wants; but true economy is not doing without, it is using wisely. Conservative use and constructive saving are the fundamentals of thrift and lead to progress, material, physical and moral. Only when thrift-training in education is generally perfected thruout the land, will the nation be able to realize its great possibilities and provision for future generations be made secure.

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IV

THE KINDERGARTEN AS AN AMERICANIZER[1]

Thru the child the race speaks a universal language. The child is the Rosetta Stone which reveals the interests common to humanity everywhere. No other bond of national unity can be found, to bind together indissolubly all the racial elements in our midst. In the presence of the child, race, language, customs, traditions, prejudices, and beliefs must take a secondary place. In our present discussion the child is the basis of our program of Americanization.

Non-English-speaking parents may not sense the significance of what we mean by Americanism (I am not altogether certain whether we know ourselves) and they may even seem to be indifferent to its appeals, but they are vitally interested in their own children and in such fundamental considerations as those of home, love, sympathy, food, shelter, health, work, leisure, and companionship.

These are the instinctive longings of the human heart. Fortunately these instincts are not confined to Americans. But may I pause long enough to say that the highest and noblest ministrations to these needs reflect to the best advantage the spirit of America?

My first appeal then is for us to approach our problem on these common grounds rather than on the more or less obscure definition of Americanism. By reason of such obscurity in the mind of the immigrant our efforts to reach him have often been hindered and sometimes defeated. He has been suspicious of our motives.

Lack of tact on the part of some of those in charge of food-conservation meetings served to widen the gap of group relationships instead of closing it. Instances are known where whole assemblies disbanded for fear of becoming entrapped. Largely for the same reason chairmen of health bureaus and better-housing committees, compulsory school attendance officials have to wear the badge of the law to gain access to many of the homes of the unnaturalized. As long as results have to be gotten thru compulsion rapid headway need not be expected. The rule of force must give way first to the knowledge of a common purpose and a mutual effort to achieve that purpose.

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[1] Address delivered before the Pennsylvania Branch of the National Congress of Mothers, Lebanon, Pa., October 4, 1919.

Nor does the mere use of the American language assure the accomplishment of our object. Language is but a necessary means of communication. English is the adopted tongue of this nation. It is the language of the street, the market-place, the press, the pulpit, the forum, the book and the magazine, the public school. This being the case, of course we hold its use indispensable in the Americanization movement. Let us not think of language as the chief end of our efforts—and thus put in our own path an unnecessary obstacle by seeking to deprive the immigrant of the language he brings to this country. If the ability to use the English language were a sure guaranty of loyalty to this government and its basic institutions, the bolshevist and the anarchist would be compelled to remain strangers to it.

Nor is naturalization an unfailing guaranty. The war has shown that men may use the cloak of naturalization as a ruse to betray their adopted country. Nor even is public demonstration of patriotic fervor. Native-born Americans have been known to boast of their loyalty in public and in private to thrust their poisonous daggers into the very vitals of our basic institutions, or they may be the very ones who are guilty of defrauding an unsuspecting neighbor or even blatantly looting the public treasury or the American ballot box. Such men are not only un-American, but they are a thousand times greater menace than any illiterate immigrant. No, Americanism is made of sterner stuff than their ilk ever dream of. If such were Americans, it would be high time for us to take steps to Americanize Americans.

Then why attempt to rob the immigrants of all they hold dear—language, customs, racial traditions, religious beliefs?

Where did the spirit of America have its birth, if not in the hearts of the pioneer immigrants to America?

Let us assume that they are Americans at heart, striving for the attainment of the ideals which prompted them to come to America, such as life, liberty, and the pursuit of happiness. Their aspirations in coming, like those of our forbears, centered about freedom from oppression, freedom of thought and speech, opportunity to rise in the economic, social, and political life of the new land, equality to develop to the full capacity. What they need now is the environment to enable them to realize even more than their most cherished hopes. That environment must have the immigrant's home as the center.

John Fiske made the whole world his debtors by pointing out that the dependence of the human child during the period of infancy makes necessary the monogamic family, a home presided over by a solicitous father and mother who keep and guide their own offspring to maturity. Such a home makes for morality, decency, social stability, government, and even religion.

Wherever the public kindergarten exists, there the first opportunity presents itself to make the point of contact with the immigrant's home. The kindergartner seeks it out with a view to garnering the children of kindergarten age. Fortunately no compulsory school law reaches so low an age level. A sufficient number of kindergartens of the right type go far to make a compulsory school law in force at a later age of childhood a dead letter in most cases. Four years of practise in sending children to school regularly make most parents unconscious of the operation of the law when the child reaches its eighth birthday. The law is then doubly effective because both the letter and the spirit are observed.

The kindergartner has the advantage over the grade school teacher in that she seeks to establish personal relationships in the home while the mother's care is most closely knit to the welfare of the child. In Pennsylvania almost half of the children in our public schools come from the homes of immigrants. If kindergartens were generally established in the Commonwealth many of the children likely to attend parochial schools later could also be reached and given the benefit of kindergarten training.

Out of 100,000,000 inhabitants in the United States, 35,000,000 are of alien parentage. Think of what service the kindergartner can be to the alien mother who may not know how to care properly for her offspring in our congested American cities! Or if the kindergartner is not in position to render the necessary assistance, she can report the case to the district nurse association, to the department of health, the associated charities, or to some other public agency.

Most of these mothers came from rural sections, in the open country where sunshine, pure air and pure water could be had in abundance. To many of them the white plague was unknown. Today more than 300,000 children perish annually in the United States during the first year of infancy—six times our losses in the World War. The great mass of these belong to non-English-speaking homes, where the parents, three to nine children, a half-dozen or more boarders occupy two, three, or more seldom, five rooms.

Bringing the children of such immigrants into the kindergarten is the initial touch of the immigrant home with the most potential Americanization agency among us. The children have no difficulty in learning to speak the common language, to practise American customs, to participate in all the group activities of American children. As soon as we reach the child we reach the mother also. If we fail to link her permanently to us and the one great institution which includes all in its scope of operation, we have failed in taking advantage of an opportunity to reach her most effectively.

Systematic visitation at the homes of kindergarten children is a prime necessity. Common counsel is needed to care properly for the kindergarten child. Exchange of ideas between teacher and mother is mutually helpful. Regularity of attendance, food, sleep, health, and play furnish an ample program. Home visits should gradually be supplemented by the mothers' monthly group meetings.

The mothers in these alien homes are oftentimes timid and diffident. They shrink from the public gaze. Their language forces them into shyness and seclusion. The husband and children have had advantages to make contacts with American life which have been denied to them. The kindergartner is in position to remedy such a deplorable situation. She has their confidence. She is in position to teach them the same language their children learn in school and on the street, to read the books their children read in the primary grades, to write a friendly letter or a business letter, to make out a check or a money order, to consult reliable sources of information, to do their shopping in the American language, how to buy their wearing apparel in good taste, how to throw off characteristics which serve to make them conspicuous in the presence of others. Above all, the kindergartner can assist the mother to maintain the respect of her husband and children. The instruction given will open the way for the mother to attend afternoon classes conducted in the kindergarten room by the kindergartner or to accompany her husband to an evening class open to both men and women.

In a kindly way the kindergartner can point out to the mothers in immigrant families the necessity of covering and destroying garbage, exterminating the deadly fly and filthy vermin, the guarding of milk and other food against contamination, the sanitary disposing of sewage, protecting the water supplied to the family, clearing the yard, road, and neighborhood of broken glass, rusty nails, and cans.

These women ought to be informed by the kindergartner what steps their husbands need to take to become naturalized so that they may urge them to apply for their naturalization papers. Every immigrant home will welcome the kindergartner who can advise them how to secure reliable medical assistance, widow's pensions, damages under the compensation law, trustworthy legal advice, the services of an honest undertaker, places to make safe investments.

In the mothers' meetings held in the school-buildings the foregoing items and others of similar import can be taken up first and then the time can be pleasantly and profitably spent on stated occasions by reviving some of their foreign customs of dress, food, music, or of some other phases of common interest. In this way the mothers' meeting becomes a clearing house for the exchange of ideas between them as well as the opening wedge for the tactful introduction of approved American customs. Gradually a few tactful American women should be suggested as members of these meetings with a view to further social adaptation and amalgamation.

The process of social amalgamation is slow. It is not perfected by a few pink-tea calls. Everything that is worth while takes time to develop.

The kindergarten teacher can render large service to the immigrant mother in helping her plan for the education of her children, in showing the advantages of keeping the children in school regularly, and of having them continue their studies, in keeping her informed on the kinds of employment available for her children, and in advising her on the care to be exercised in the choice of clean-thinking companions for her children; in brief, in lending a helpful, sympathetic hand for the solution of any perplexing problem.

Who would have been so rash ten years ago as to predict the serious discussion of the topic you have seen fit to assign to me on the program in the year 1919? And yet I make bold to say that the future use of the kindergarten as a potential Americanization agency will make for its early establishment as a part of every public school system in every state and community with large numbers of non-English-speaking residents. To discuss the topic of Americanization is to urge the extension of the public kindergarten to such communities.

There are still to be found many well-intentioned folk who are unable to justify the expenditure of public funds for the maintenance of public kindergartens. If it can be demonstrated to them that the kindergarten is the most effective means of assimilating non-English-speaking mothers, as well as the children of non-English mothers, their opposition will disappear.

The children in the grade schools are soon so completely Americanized that you can not distinguish them from the children of native-born. Admitting them to the public kindergarten one or two years earlier than they are now admitted to the first grade only serves to hasten the process, with the added advantage that the mother also becomes a part of American life during the process.

S. E. WEBER

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V

IS PHYSICAL EDUCATION WORTHY OF ACADEMIC CREDIT?

Body education is just as truly a part of education as is mind education—it is adjustment to environment. More than ever before, we need the means for making this physical adjustment, artificial as it is, in the form of gymnasiums and athletic fields. For countless ages primitive man has had to make this adjustment or perish; it was the larger part of his education. Within two generations we have almost entirely given up the vigorous use of our large fundamental muscles which were so generously used by our grandfathers for plowing, building, lifting, walking, running and the like. Every modern convenience contrives to deprive us of the legitimate use of these muscles. We ride to our work, get to our office by elevator, talk by telephone, write thru our typewriter, almost think thru our secretary, digest thru the help of the chemist and prepared food specialist and are saved a thousand and one little efforts thru the press of the electric button. We get up energy in the morning thru caffein stimulation; appetite is restored at noon thru a cocktail, rest and relaxation at the end of the day's work are gotten thru the soothing effects of nicotine, body poisons are eliminated by the aid of a cathartic and possibly sleep is induced by the use of an opiate. Such a profound change in our mode of living as compared to that of our grandparents can not help but have a detrimental physiological effect upon us. It is no doubt one of the causes contributing to the so-called diseases of degeneration which are so peculiar to our country and civilization. The army has shown up physical defects among our selected young men we little dreamed of. The Life Extension Institute of New York is showing thru their system of free physical examinations, to an extent little dreamed of, the presence of major and minor defects in young men who are supposed to be free from them.

Army officers found by experience that the majority of soldiers under training were able to make only a very limited number of muscular coordinations—those which they had learned in their daily habits. Few of them could do a running broad jump of over eight or ten feet. Their coordinations were not equal to those of the ordinary fourteen-year-old boy. This was found to be a very serious handicap in jumping ditches, vaulting fences, climbing out of trenches, running, crawling and other necessary motions.

Dr. J. H. McCurdy, head of the Y. M. C. A. physical activities in France, saw the seriousness of this defect among the fighting men and guaranteed to diminish mortality ten per cent by teaching, thru mass instruction, these simple muscular coordinations. Dr. McCurdy's recommendations were met with hearty response by the military authorities with the result that his contentions were proven by actual experience.

We are all familiar with the effects of mind upon body—we may be a little less familiar with the effects of body upon mind; *e. g.*, fatigue diminishing the mental reaction period; slowing up the passage of nerve impulses, and lessening the appreciation of certain apparent signs; alcohol poisoning upon mental and moral appreciations; thyroid insufficiency upon general development; indigestion upon our optimism.

We know now the value of the teaching of certain muscular coordinations in relation to mental development in subnormal children; the value of exercise in awakening latent motor and sensory brain centers in such persons as Laura Bridgeman and Helen Keller, the famous deaf mutes. It is a matter of observation that those who have poor mental coordinations generally have fewer and simpler muscular coordinations. Therefore to arrive at a highest degree of education, mental training must be supplemented by physical training.

Major General Leonard Wood said at the National Physical Education Convention in Chicago last spring that military training is mostly physical training. We are inclined to think he is right.

The average educator is unwilling to accord the same place for physical education in the general scheme of education as he is for Greek, Latin or mathematics, yet it is more basal than any other single subject in the whole college curriculum. This attitude is due to a certain extent to tradition—the false belief that education is only of the mind—but more especially because physical education is a new phase of education and therefore must take time to become recognized. Again the demand for teachers has been so great that many inadequately trained men and women have gotten into the ranks. These have not seen it from the larger educational but from the recreative and hygienic point of view only. The point of view of the Y. M. C. A. physical director is largely that of health and informal good-fellowship—the school point of view must be equally educational. The director of a department of physical education in college must have the same high degree of training for his work as the head of the English or Biology Departments. When our directors of physical education are thoroly trained both culturally and technically and conduct their work according to the best pedagogical methods there is no reason in the world why full academic credit should not then be given for it.

Again from lack of appreciation, cooperation and interest on the part of college authorities, the well-trained, physical director of high ideals often has been unable to make a place for his department on the curriculum. In many colleges a relatively large expenditure of money has been made in this department in both buildings and salaries and with the poorest returns of any investment in the college. We all know we should have gymnasium classes, but few college presidents or professors know anything about the kind of work which should be done in the gym. Rarely do these men visit the gym classes, yet they are willing to criticize the work as unworthy of academic credit. The president of one of our well-known Eastern colleges told me three years ago that he would be willing to have the student substitute the digging of post holes for gym work, yet he maintained an expensive gym on the campus and paid a medically trained physical director to carry on the work. Could you expect a high grade of work to be done in that institution where the president has no higher conception of physical education than that of grunting and sweating?

In most of our best colleges today physical education is required, but no academic credit is given for it or additional credit is camouflaged on to the 120 hours which means of course the same thing as none at all. If it is required, positive credit should be given for it and it should then be seen that the quality of the work merits credit. As it is now, laxity in attendance is the rule in many of our colleges. The clever freshman soon learns to beat gym thru various trivial excuses simply because it has been traditional to do so—the less resourceful ones get caught and take gym.

It is difficult to derive the greatest amount of benefit from such a program as provides only for freshmen and sophomores taking two, thirty-five minute periods a week. We have probably over-estimated the physical value derived from such a limited program. The real value perhaps is in the fact that it is the beginning of a real effective program of physical education which is sure to come in the near future.

It was a shock to some of us physical directors to note the greater physical benefit derived from the short period of the S. A. T. C.'s existence as compared to that derived from the regular gym work and especially considering that the former was done largely by inexperienced student instructors. It simply indicates what results might be accomplished if we had sufficient time at our disposal. To get the desired results every ordinarily well student in college should be required to take at least five full hours a week in some form of supervised physical education. Positive credit should be given for this on the basis of laboratory work. Students do not object to the right kind of gym work if they are given credit for it. Superimposed work seems to them an injustice. The enforcement of gym requirements will always be a problem until it is put on a credit basis. I should recommend that every man required to take gym work demand that positive credit be given for it. Many students seek to be excused from gym work on the plea of needing that time for earning their living expenses. Many others seek to be excused for most trivial things which would not excuse them from other classes. There are many cases of malingering which are hard to detect except by a physician. For this reason it becomes easy to take the attitude that all excuse seekers are bluffing until found otherwise. Many physicians antagonistic to or not having been trained to fully appreciate the value of physical education will give a student an unwarranted excuse to exempt him from gym work.

Men seeking excuse from participation on the floor might be given a paper to write upon some health subject. This would deter many men from asking for an unnecessary excuse and make them feel that credit should be given for such work done.

There are now instances where academic credit is given the military department for gym work done thru the physical education department. In most institutions where military work is conducted, credit is given for it and often where none is given for physical education. Work done in the well-organized physical education department is surely as worthy of credit as work done in the military department which is only a temporary department in many colleges.

Dean Angel of the University of Chicago said in his address at the National Collegiate Athletic Association last winter in New York that we must be responsible for the entire life of the student physically and morally as well as mentally—we must give everyone a chance to participate in some form of physical activity and that positive credit should be given for it.

Twelve states have now past laws requiring physical training in all schools in these states. Universal physical education is not far away. It will not be long before a satisfactory course in physical education will be required of all who are to teach.

Preliminary reports from the Provost Marshall General show progressive physical deterioration in our school children year by year. When our army officers were convinced that physical education was necessary for developing fighting efficiency, they willingly gave all the time necessary to it. We are concerned about our mental illiteracy but as yet have not waked up to the seriousness of our "physical illiteracy" which is far more extensive.

As a result of a questionnaire sent out by the writer this spring to one hundred of our most representative colleges, replies from 73 were received. Five colleges stated that four hours positive credit is given out of the one hundred and twenty hours. Two colleges give two hours credit out of the one hundred and twenty; one, five hours; one, three hours; one states full credit; two state positive credit within the one hundred and twenty hours; five anticipated giving positive credit this year and twenty give credit in the form of an addition to the one hundred and twenty hours.

Five state universities and one large denominational college will require all men to take physical education beginning 1920. Seven already require it of all men. Four will require it of all but seniors beginning this year. Several other schools have increased the length of the period on the floor from the usual time of forty minutes to sixty, seventy and some to ninety minutes.

With the leading colleges and universities beginning to recognize physical education as a subject worthy of academic credit it will not be long before the others will follow and do likewise.

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VI

CONCERNING THE TEACHING OF HISTORY

I teach history for a livelihood and write articles on phases of that subject for recreation. Sometimes I wondered why I did not derive as much pleasure as I should like from the teaching, and it occurred to me as frequently that my students got as little satisfaction from my efforts as I did. These things being habitually true, obviously something was wrong somewhere. My first inclination was to conclude that I was confronted with the time honored dilemma with two horns. Either I am a poor teacher, or else I am continually cursed with poor students.

I am comparatively young, having had only a decade of experience in my profession, and I do not claim to have reached the *ne plus ultra* of teaching history. I cherish a hope that, like good wine, I may go on improving with age for a considerable time. Nevertheless, I have sought to keep informed concerning the most acceptable methods of teaching in vogue in my time and have experimented with those that seemed likely to work. Moreover, the fact that the cost of living has consistently advanced in the past several years and the further fact that any increase in the stipend from which I have to meet that cost depends in a measure on my effectiveness as a teacher spurred me on to what I can fairly say is pretty nearly the best efforts of which I am capable. I know that I am much interested in the study of history myself and that I have a zeal according to the best knowledge I have for inspiring the same interest in others. And so I am reluctant to shoulder the blame for my apparent lack of success in my undertaking.

A more comfortable explanation to me is the assumption that the students are at fault. They certainly do not care for history, at least for the variety of history in which I am trying to interest them, and my efforts to arouse their curiosity seem to be almost fruitless. They frequent my classroom, as they go to many others in their journey thru the educational mill, because they are required to have a quantum of the units which I dispense if they get a coveted degree. They endure my efforts at instruction as a ncessary evil. If at times my excessive zeal obliges them to see that I am myself interested in the subject, instead of reacting as I should wish and seeking to find out by personal study an explanation for my enthusiasm, too often they merely wonder how a fellow with so much pep can waste it on such a subject. If I could induce them to be frank about it, they would probably explain that they do not care for history because they do not see the use of it.

I have students from pretty nearly all classes of people, so they are fairly representative young persons. In view of this fact, I hesitate to pass an unfavorable verdict on them. No, if I am not overestimating my merits as a teacher, my dilemma must have a third horn. This train of thought moved me, as it has probably moved many of my professional colleagues, to ask why a youth not interested in it should be obliged to study much that passes for history in our curriculums. Of course many of the things that he will learn by distasteful drudgery will be useful when he associates with other men who have learned them. But, if that be all, why should he not be a pioneer in establishing a standard of education unencumbered with this knowledge? Is it not poor economy to perpetuate useless knowledge merely in order that it may afford conversation to persons who have been obliged to acquire it? It is true that one's mind is developed in a particular way by attempts to frame answers for historical questions. But if that be all, why not get a similar mental experience by seeking explanations of the social phenomena of the day and hour instead of trying to ferret out the outworn issues of bygone times? You may be interested in the accomplishments of Alexander the Great; Smith is interested in the conquest of England by the Anglo-Saxons, and I am enthusiastic about the life of Oliver Cromwell. But the majority of students who submit to my ministrations have little or no curiosity about any of these subjects and can not see why they should be obliged to study them. Would it be heresy to say that there is no very good reason why they should be curious about these and similar topics? If this be professional treason, I have almost reached the point where I am bold enough to give the challenge once announced by Patrick Henry.

Is our profession, then, a delusion and history vain? Not so fast. There is yet another traditional reason for studying history. It is impossible to obtain the mental experience to be derived from a study of social phenomena merely by observing current affairs. We can not understand the present except by a study of the past in which it is rooted. To how many youths fresh from high schools have I given that assurance, only to spend the following nine months or so talking about the battles and rulers and institutions and happenings of the middle ages and the following centuries to the end of the seventeenth of the Christian era. I hope those students were thereby enabled to understand some things that exist today, but I am not as fully convinced on that point as I should like to be.

The obvious way to remedy this difficulty, however, would be to select a more recent period for study. To be sure, only I should then be unable to explain the conditions with which I should have to begin, without an excursion into the more remote past. If we study the past in order to understand the present, we shall not help matters by substituting for the records of the past the newspapers and other ephemeral literature of yesterday and the day before. Students have not lacked interest in history because it dealt with the past, nor will they be induced to relish it by divesting it of its chief reason for existence.

To come immediately to the point, the trouble with the history that I try to teach, with results so unsatisfactory to myself, is that too much of it does not explain anything about the present. At least, it explains little about that phase of the present in which it is reasonable to expect my students to be interested. "Aha," I hear some toilworn colleague who has given up hope suggest, "so you would neglect Pericles and Caesar for the Olympic games and gladitorial combats. In the autumn you could correlate your history with the record of the college eleven, doing indoor laboratory work with the basketball team when the weather is inclement and getting out of doors again with the opening of the baseball season. But why should a pitcher who ought to be learning how to throw curves burden his mind with the ancient who hurled a discus?" Again I say, not so fast.

I did not say that history ought to be concerned with things in which a student, as we know the species, is interested; I said it ought to have for subject matter things concerning which it is reasonable to expect him to have some curiosity. And I sometimes wonder whether it is reasonable to expect that he be curious about Alexander of Macedon, the Gracchi, Charlemagne, Napoleon Bonaparte, or George Washington. At least, I wonder whether they should be blamed if they do not care to know the things about these notables, their countries and their times that I know about them and seek to impart. In short, if I am a heretic, my heresy consists in this: I am not convinced that it is reasonable to expect an immature youth, seeking an explanation of the present, to begin with the Christian era, to say nothing of a thousand years earlier, and to pursue an argument thru two or three millenniums with no very satisfactory conclusion when he has reached the end. To be honest, I am never myself quite certain as to what I have explained or as to the clarity of all of my explanations when I reach the end of one of these courses. In consequence I can scarcely blame a student who has lost enthusiasm if not interest as the time has past.

The trouble with my work as it is conducted, then, seems to be that my performance does not measure up to my promises. At the outset I assume the task of explaining at least some aspects of the present; in the end I have merely recounted a lot of things about the past which may or may not contribute to the fulfilment of my undertaking. At any rate, I am never sure that I ought to write *Q. E. D.* at the end after the manner of a student of mathematics. Of course this is nothing more than a personal confession. But I am convinced that it is sufficiently valid as a general accusation against my colleagues to make the subject one of common interest. I think all of us are agreed that everything is not as well with us as we should like.

I do not profess either to be correct in my diagnosis or ready with a remedy, and I shall, therefore, submit as briefly as I can the reflections which my dissatisfaction with my work has led me to make. In the first place, I am convinced that history would make a more impressive appeal to the curiosity of youth if teachers would actually spend their time seeking in the past explanations of the things with which the youth is familiar in his daily life. To take a concrete illustration, the normal youth communicates with his companions by means of a spoken and written language. Does the average teacher of history seek in the past the reasons why his students use the language they do instead of another? Again, the average youth enters college under the impression that private property in land and chattels began with creation and is the natural, divinely established order of society. He is not to be blamed for his ignorance. No teacher of history has explained to him how society in the wisdom of experience came to agree on these expedients. Supposedly a youth emerging from a fitting school into college has been taught something of the history of our government. But it is no exaggeration to say that not one in ten recalls anything of consequence thus imparted to him, and what he does recall is too vague and remote to offer an explanation of anything that may be going on in the community in which he lives. The teacher has begun with the colonies, the Declaration of Independence, or the constitution and has meandered from the point of starting to current times. But the student lost interest before he was well into the nineteenth century and gave his attention to matters of more immediate concern, leaving to the teacher the task of dragging him the remainder of a journey which had developed into a puzzling maze.

I have never tried the scheme, and it might have unpleasant results in many communities where the existing government would not flourish in the light of public knowledge. But why would it not be a feasible plan, and one pedagogically sound, to interest the pupil in the local government actually existing in his community, going from these tangible facts, which ought to interest him, into the past in search for reasons why things are done as they are? That is, why not begin with the present instead of with the year one? Why not seek an explanation for the customs and institutions with which the pupil has to do daily instead of discussing emperors and civilizations in which he as yet has no natural interest? A boy knows something, tho not much, about the bank on the principal corner in his home town, but he seldom connects that bank with the paragraph in his history descriptive of the methods of doing business toward the close of the middle ages. Why not begin with the bank in his town and work backward to the medieval goldsmiths or to the ancient money changers? At the conclusion of such a study the boy would not only know something of the functions of the local bank, he would understand somewhat of the reasons why banks came to be the kind of institutions they are as well. To repeat the point once more, if we study history in the hope of finding explanations for the present, why not begin with the things in the present for which we care to find explanations and then proceed to make an intelligent search for the explanations desired? Why go on with our present method of starting at some indefinite point in the past and gathering in a sort of drag net all the facts we can conveniently assemble in the hope that we may get ashore with enough of them to explain something?

If this diagnosis is correct, we have been studying history backward. This being my view, you ask why I do not use the method I suggest when teaching the students it is my duty to instruct. The answer is easy. Nobody has written a manual from that point of view, and it would not be feasible to make so radical a departure from traditional methods without a textbook for a guide. One could scarcely begin at the end of the existing manuals and work backward. He would not find at the conclusion of those books things for which he would care to find explanations. Indeed he would be lucky to find in the preceding pages explanations of the things at the end.

You advise next that I write a manual incorporating the scheme suggested. The trouble is we should have to reach some general agreement as to the things for which the different grades of students ought properly to seek explanations. Moreover, the needed facts to make these explanations would not be easy to extract from the existing historical works of the traditional type. Finally, it is unlikely that a publisher would have the courage to accept the book from me if it were written. If he did, it would probably prove a losing venture. An older teacher with more experience and an established reputation as a writer of textbooks which are profitable to his publishers would have a better chance of succeeding with the project. The difficulty is he would probably be too conservative to undertake it. I wish some such man would make the attempt. For one, I should like to cooperate with him to the extent of giving his production a trial for at least one year.

WILLIAM T. LAPRADE

DURHAM, N. C.

VII

MARK HOPKINS OR THE PH.D.?

For some time there has been considerable fault-finding with the American College. There have been slashing attacks on the entrance examinations, the classics, the electives, the athletics, the trustees, and what-not; and on its side the college has assumed for the most part the rôle of the martyred St. Sebastian, stuck full of arrows but conscious of rectitude. The dissatisfaction remains; the results are not commensurate with the cost in time and money.

Beneath all the other criticisms leveled at the details of college organizations and life lies the fundamental criticism, namely, that the American college fails to kindle the student with intellectual enthusiasm. Yet the college boy has a marvelous capacity for enthusiasm. He exalts his alma mater to the place of a personal divinity, he passionately devotes mind and body to athletics, he works night and day to win a position on the college paper, he adores his secret society; but he regards his studies only as necessary nuisances. Nor is this true simply of the undergraduates. What are the alumni interested in? Who among them cares what is taught at the old college or who does the teaching, compared with the acquisition of a great football coach or a new fraternity house?

Recently it has been urged that the splendid part played by college men in this war is a sufficient vindication of the American college, but the connection between that fine spirit of service and our college system is not clear. The fact only goes to prove that American youth are capable of unlimited enthusiasm for a cause and emphasizes the amazing failure of our higher education to arouse even a trace of it in the problems and the conquests of the intellect.

Yet it was not always thus, for our fathers seem to have gone to college to some purpose. They debated mightily among themselves over Lyell and Darwin and fired their speech with the magic of Byron and Carlyle. Moreover, they swore allegiance to some great teacher. For instance, I remember the reverence with which my old professor of chemistry spoke the words, "my master, Agassiz." The American college may have gained a whole world of material things but it has lost, if not its soul, something almost as vital.

Garfield's remark that his idea of a university was "a boy at one end of a log and Mark Hopkins at the other," may be threadbare as a quotation but it bears no marks of recent usage as a principle. The chief difference between the college of Garfield's day and that of our own is that we have dispensed with Mark Hopkins. It is notorious that the colleges, like the churches, lack men of force and inspiration. There is something negative about the modern professor that largely justifies the popular contempt for the species. A group of young men sit under his instruction, but too often he can not dominate or inspire them by his personality because he has none. They regard him as an unavoidable evil in college life, and he regards them as preternaturally stupid. Is not this the pivotal spot where our elaborate college machinery breaks down?

Of course there are many exceptions to this sweeping generalization, but does it not hold for the mass? Indeed, I venture the opinion that, despite all the enlargement of American scholarship, college teaching is markedly inferior to what it was in the days of Garfield. That is a matter of opinion, but there is no disputing the significant fact that the trend of our universities has been for many years to discredit teaching, to make it feeble by every means in their power. And where good teachers survive they do so in spite of the system not because of it. Garfield's idea belongs to the provincial America of antimacassars and Rogers groups, when people held the näive idea that the most important duty of a college was to teach. We were then still under the influence of the English, who cherished men like Arnold as ideals of the teaching profession. But, needless to say, this idea has no standing at Bonn or Göttingen, and since the American university cried "Kamerad" to the German university thirty or forty years ago, it has had no standing here.

As the importance of the teacher dwindled, that of the log increased. Nowadays a college is great among its fellows by virtue of its equipment. Alumni subscribe to stadiums and "bowls" in mass, and rich individuals give Tudor dormitories, Greek-temple libraries, and English-perpendicular chapels. And amid these architectural glories of the campus creeps the shabby, apologetic figure of the instructor, who is paid less than the truck driver who is shunting coal into the cellar of the dormitory. It is so much easier to point to a building as evidence of growth than to the inspiration of a great teacher. Anybody will do for teaching, provided he is a Ph.D., and you can get Ph.D.'s cheap.

Naturally, the consequence of poor pay and poorer prospects is poor men. What man of power and ability will submit voluntarily to such conditions as prevail in most of our colleges? As in the ministry there are rare souls who keep on for sheer love of the work, but they have everything to discourage them. The product of beggarly salaries is bound to be the tepid, ineffective type of humanity who, finding himself lacking in the manhood and ability required for any other form of work, takes up teaching. You get what you pay for, as a rule, and no more,—especially in hiring teachers.

But it is not only this greater interest in equipment that has crowded Mark Hopkins off the end of the log. A still greater force has been the modern principle that a teacher is not employed as a teacher but as a research man. As the recitation hour is a necessary nuisance for the student so is it also for the instructor. It is his primary business to devote himself to research and publishing if he expects to hold his job or get a better one; he will trouble himself as little as possible with his classes.

For this paradoxical situation we have to thank the German conquest of the American university. There is yet to be written a Bryce Report of the German atrocities committed on our higher education, and it will make harrowing reading for the next generation. Unfortunately this generation is accustomed to the horrors of Kultur as a matter of course, and the faculties of our colleges have been breaking stone for the German idea so many years that they can not imagine anything else. "Our good old German God" still decrees that a college professorship exists not for teaching but for research.

This idea has appealed to us the more readily perhaps because of its practical possibilities. Like the Parthenonesque library, the name of a noted scholar is good advertising. He may be a wretched failure in the classroom but that does not make any difference. Further, if you happen to be president of a state university and have to go before the legislature every year to plead for funds, it is a great ad-advantage to be able to overawe the bucolic statesmen by a string of degrees after a professor's name and especially with the titles of his scholarly publications, all mystic and wonderful. It is like Hebrew in the parson's sermon; you feel that you are getting your money's worth. How futile it would be to go before the legislators and ask $5,000 for a man because he was the most successful and inspiring teacher in the history of the college!

It would be easy to multiply examples to prove that the German idea still controls our universities, but one will suffice. Not long ago one of our western state universities was in sudden need of an instructor in mathematics to fill an emergency. The graduate school of a neighboring university was appealed to for candidates. Two were offered; one had not quite completed his work for the doctor's degree but in personality was most admirable and in experience most successful. The other had just taken his degree "but," wrote the Dean, "his personality I can not recommend, and his experience offers nothing in his favor."

"Send me the Ph.D. every time," was the reply.

Since the Ph.D.'s are wanted, the graduate schools are operating full blast to meet the demand. Graduate students soak up erudition in far corners of their field, they work themselves into sanitariums over their dissertations, and then they are sent out to teaching positions with the information that "anybody who knows his subject can teach it," and that popularity in the classroom is the unmistakable symptom of superficiality.

And what is the result? Nothing could be better calculated to unfit a man for teaching. For example, having taken courses in Gothic, Old Icelandic, Old High German, Phonetics, and the like, a Ph.D. in English finds himself called upon to teach freshman composition and some plays of Shakespeare. In most cases he has no idea how to teach the boys to write or to appreciate what there is in Shakespeare. Why should he? His graduate course has been so devised as if there were no such thing as teaching. But since his chief business is to publish, he does not worry about his teaching; nobody does. Under these conditions is it surprizing that our courses in literature create so little appreciation of literature and our work in composition bears so little fruit? What is even worse, the instructor's human perspective gets so badly distorted by the theory and practise of the graduate school that he and the normal college boy have absolutely nothing in common. Personal contact either in classroom or out can amount to practically nothing. Anyway, why waste time trying to talk with your students when you might be at work on research?

The general futility of the graduate school product has been imprest on me by considerable experience at the Naval Academy. If there is one characteristic of the naval training it is a positiveness of character in the product. The students at Annapolis look forward to a career of action, responsibility and efficiency, and they are trained from the day they enter to measure up to virile standards. For a civilian teacher to impress himself on a classroom of midshipmen one ounce of manliness, or personality, is worth a ton of erudition. For many years the graduate school product has come to the Naval Academy to take the examinations for the position of instructor, and while the best types may not have been attracted by the position, nevertheless a large number of the candidates have been of the feeble, colorless, even effeminate type—about as fit to command respect in young naval officers as a calla lily. Or, what was as bad, they displayed a native boorishness and crudity of manner which had not been softened by the sweetness and light of their graduate studies. They were all loaded to the muzzle with facts, of the German kind, but we needed something more vital.

For instance, there was a pale, pop-eyed Ph.D. from a distinguished university who came to take the examination, but who after arriving on the scene, vacillated miserably for an hour or so trying to make up his mind whether he would take the examination. He feared that if he were accepted he would be removed too far from his sources. It came out (without effort) that he had just published a dissertation on The Comma in (let us say) Ruskin. For untold months he had been happily grubbing for commas as a boy hunts for angle worms, for with that bait he would land a teaching position; and then, of course, continue pulling up commas thruout the whole garden patch of English Literature till stopt by either death or the lack of commas. What can a man absorbed in commas and highly contemptuous of the teaching end of his job accomplish with classes of exceedingly healthy and lively young men absorbed in athletics? No wonder the boys respect football infinitely more than literature. Under the circumstances they can do nothing else.

The utter lack of perspective of the German-style scholar of our universities is well illustrated by an incident of a few years ago at the Naval Academy. The naval officers of the Post Graduate School, feeling conscious of their ignorance of literature and desiring to be enlightened and inspired in the direction of good books, arranged for some lectures in English Literature. After due consideration they invited one of the chief ornaments of a distinguished university to deliver the lectures, leaving him a free hand in choice of material. Accordingly, this light of learning appeared before his audience of naval officers and worked his way thru reams of erudition and technicalities on the Historical Evolution of the Sonnet! Needless to say, the Post Graduate School has never felt any further interest in literature. Suppose, for comparison, that Vice Admiral Sims were invited to address the Graduate Club of Yale on the work of the navy, and he should read a series of papers on the Mathematical Justification for Omitting the Seconds in Navigation Sights!

Moreover the modern graduate school does not accomplish what it pretends to do, develop better scholarship. One candidate for instructorship in English at the Naval Academy, for example, presented his Ph.D. from one of the leading universities of the east, but on examination proved himself unable to spell or write a respectable sentence. This may be an exceptional case, but in all this glorification of research that the graduate student is taught, there is something frankly sordid that makes for superficiality. One pursues scholarship not because it is a noble thing to "settle hoti's business" but because that is the way to anchor your present job and grapple a better one. In other words it is the laborious but only method of self-advertising. At this advertising game quantity is apt to go farther than quality, hence the feverish effort to publish. The inevitable consequence is the flood of printed matter called scholarly publications that drop from the presses, heavy and useless as lumps of slag. How can a young instructor afford to devote five years to a piece of research in order to do it thoroly and well when every year the challenge will have to be met, what have you published during the year?

Now that the war is over and the German ideas are not regarded as quite so infallible as in the old days, it is a good time to ask whether we are perfectly satisfied with the rule of Kultur in the American university. Has it proved good strategy to kill the teacher in order to develop this peculiar type of research man? Shall our higher education remain the last prisoner of the Germans or shall it revert to the old American idea as exprest by Garfield, and bring back Mark Hopkins to the other end of the log? If we send our boys to college to get educated, it would seem obvious that we want men in the professorial chairs who are capable of getting a response from them in terms of interest, respect and hard work. This was what Mark Hopkins did for fifty years of Williams students; who in our colleges today is accomplishing anything comparable with that record?

Of course, the great teacher is often a scholar also, and his scholarship is likely to be far more thoro and infinitely more humanized than the stuff that is being poured out by the Ph.D. machine. Perhaps the books of Mark Hopkins could not be called scholarship, their titles sound old-fashioned indeed today, but possibly they were worth more to their generation than the whole dreary output of our modern English scholarship is to ours. Of course, also, it does not follow that the lazy teacher who never publishes anything is a better teacher for that reason. The point is this: thanks to German influence, our emphasis in the college system has for a long time been in the wrong place; we have mixt end and means. Let scholarship be acquired to the end that teaching may be truer, wiser and more inspiring; let publishing be merely the by-product of teaching; and let us come back to the common sense idea that the business of a college teacher is to teach.

If this is to be the aim, to get the best possible results from the students, our graduate schools must be thoroly reformed. Scholarly method and accuracy should be taught, to be sure, but the course should be planned to turn out men and women trained to teach their subjects. There are a few born investigators, the miners and sappers of knowledge, but these can be accomodated in Foundations, or even in the universities provided they are not asked to teach. Their business should be clearly defined as research. Under a system like this one might get fewer publications but better results in research, especially with regard to things worth investigating. In the field of literature, at least, there has been an unconscionable amount of digging to uncover the tin cans and old rags of the past, while in theory one was digging for gold.

Having reformed the training of the teacher the university must reform its own treatment of him. It must offer him a career. This means better pay and better opportunity for advancement than are offered in any university in the country today. Higher education can get along with fewer marble swimming pools and Jacobean dining halls for the sake of better teachers. More than anything else the American college needs big men.

It may be urged, on the other hand, that the protected life of the college teacher—its artificial dignity, its lack of competition and criticism, its remoteness from the world of give and take—makes inevitably for softness, that the very life tends to rob a man of force and human perspective no matter how virile he may be to begin with. It is the same criticism that is directed against the clergy. There is an element of truth in the charge, but there are too many examples to the contrary, such men as the late Professor Sumner of Yale and Professor William James of Harvard—not to mention a host of others past and present—whose fine steel lost none of its temper during a long lifetime in the professorial chair. The national leadership of Professor Masaryk in the renaissance of Bohemia and the international leadership of Woodrow Wilson in the League of Nations suggest that a man may be a professor and yet accomplish great things in the world of affairs. Nations are getting tired of being led by lawyers and generals, both partisans by profession, and there never was a time when the combination of wisdom and force, ideals and practical knowledge meant so much to the world. As never before, this is the day for the despised professor, if only he can measure up to the opportunity. We can attract the men who can measure up to the opportunity only by offering such meed of success as they are capable of winning in other fields.

At all events, unless the American college can find, as teachers, the men who can open the windows of the student's mind, thrill him with unexpected vistas of knowledge and speculation, and inspire him with ideals of conduct,—as Mark Hopkins did—all our elaborate panoply of buildings and the solemn array of Trustees, Deans and Professors are a pompous fraud. Garfield gave us his picture of a university, the boy at one end of a log and Mark Hopkins at the other, but that was before the German conquest. The American university of today looks very different. There sits the boy, more athletic than in Garfield's day—in fact he is wholly absorbed in his muscles. The log has become a magnificent Corinthian column (McKim, Mead and White). At the other end sits a shabby figure to whom the boy pays no attention whatever, and he, in turn, pays no attention to the boy. He bears no resemblance to Mark Hopkins; he is a Ph.D. with a negative face and ingrowing manner, with eyes intent on a task before him. If you ask him what he is doing he will reply indignantly that he is adding to the Sum of Human Knowledge, and if you watch him you will see that he is feverishly counting and tabulating the grains of sand in a bucket.

WILLIAM OLIVER STEVENS

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VIII

THE NEW GEOGRAPHY

EDUCATION FOR WORLD CITIZENSHIP

Geography is undoubtedly one of the most unpopular subjects in our public school curriculum today. The child who likes to study it is the exception and the instructor who enjoys teaching it is rare. This is peculiarly unfortunate at a time when the need for geographical knowledge is unprecedented and increasing daily. Never before have people in general felt so acutely the poverty of geographic background in their education.

For centuries geography has been recognized as a legitimate and necessary part of common school education, and as such has been assigned a place in organized pedagogical effort, yet it has been allowed to become a dead, lifeless subject, a bug-a-boo of endless detail for most children, and little better than a tolerated bore for the rest. The reasons for its unpopularity are complex, but they may be summarized under two points: (1) The subject has dealt with an infinitude of details, with no definite or sustained effort to correlate them, and (2) the teaching methods have not been based sufficiently on the principles of cause and effect. The result has been as inevitable as deplorable; little interest has been taken in the study, and few children have graduated from it with more than a general smattering of facts, which, lacking coherence, have been easily forgotten. The time is imminent when an awakened public opinion will demand better geography —geography that will be an asset to the children of today as they evolve into the adults of tomorrow.

August, 1914, caught us unawares, and among other things it stimulated an immediate interest in geography. Thousands of otherwise well-informed persons found themselves floundering helplessly in a sea of unfamiliar names and foreign places. Atlases and maps appeared as if by magic, and the American public betook itself seriously to a study of European geography. Each successive step in the war revealed to the American people their lack of geographic knowledge, and awakened a corresponding desire for enlightenment. It is not too bold to say that, with the exception of specialists in the science of geography and students of world history and world relations, not one person in a thousand who has taken an intelligent interest in the war has been satisfied with the geographic back ground which he possest for understanding it.

What was true while the war was actually in progress has been magnified immeasurably since the signing of the armistice. The peace deliberations have touched the destiny of nearly every part of the eastern hemisphere. New nations, carved out of the old ones, have come into existence almost over night: Czechoslovakia, Jugoslavia, united Poland, Lithuania, Letvia, Esthonia, Armenia, Hedjaz—a bewildering array of new nationalities, each seeking the exercise of its own prerogatives. Self-determination has become a stock phrase which elicits a considerable amount of sympathy from the ordinary citizen. Yet it is an undeniable truth that if the demands of these new nations had been made in peace time, without the stimulating revelations of the war, they would have met with no enthusiasm and little attention in this country. There is just one reason for this fact. It is because the average American, educated in the public schools, has never been taught the slightest thing about the geographic distribution of races and the political domination of peoples in Europe. Only the university specialist—and he has been the exception, not the rule—has had the opportunity to study the real meaning of the conglomeration of races and nationalities which have constituted Europe of the last three centuries.

Up to the time of our entrance into the war we Americans had led an extraordinarily isolated existence. Separated from Europe by a great ocean, and from the Orient by a greater, self-supporting to an unrivalled degree, we had little to fear from the quarrels and disputes of the rest of the world. It is not surprizing that we had sunk into an attitude of smug self-complacency, believing ourselves miraculously immune to international troubles of any magnitude, and willfully ignoring many of our international responsibilities. That time has past, and it has past forever. At the moment of our long-deferred declaration of war against the central powers we threw off the cloak of isolation and assumed a definite and sacred responsibility in world affairs. The war has been won, but the true battle is just beginning—the fight for the actual, as well as the nominal freedom of nations.

The problems of peace loom before us, infinitely greater than the problems of war. The decisions of the peace conference will avail little unless the participating nations leave the table with the firm determination to see the spirit as well as the letter of the agreements carried out in the fullest detail. Mistakes have already been made which must be righted; that is the task of the present. But the vital necessity is that in the years to come the peace decisions shall be carried out in the good faith in which they were intended, and that they shall be modified and amended as the international good of the world shall demand. Otherwise the war will have been fought in vain. That task is not for us alone, but for our children and our children's children.

The preparation of the children of today for the Herculean tasks ahead of them is a sacred trust, a compelling duty which the present adult generations must face at once with honest and unprejudiced fearlessness. Never again must it be possible for the world to precipitate itself into a wholesale slaughter of its youth. It must be too intelligent, too tolerant and too well-informed for the repetition of the catastrophe. There is just one safe, sound avenue to the accomplishment of this purpose—education. It must be broad, human education, international, not national in its scope, which shall teach first, what Americans are and why; then what the other nations of the world are and why; and, finally, the complex and delicate interrelations between nations, an understanding of which is fundamental to permanent peace.

The French expression, "*comprendre, c'est pardonner; comprendre, c'est aimer,*" expresses a sound psychological truth. The essence of brotherly love is complete mutual understanding. If the people of the world are to enter into any sort of a society of nations to establish and maintain a permanent peace, they must first of all set out systematically to find out about one another. Each nation must make a business of learning under what conditions the other nations live, and on the basis of that knowledge must make a conscientious effort to understand the motives which underlie the ambitions, policies and character of its colleagues.

The readjustment of the world on the new basis of justice for all nationalities is the business of every citizen of every enlightened nation. On no nation does the responsibility fall so heavily—and justly so—as on the United States of America. Solvent, rich in resources, economically independent, comparatively unscathed by the war, whether we wish it or not, we are bound to lead in the march of international affairs for many years to come. Our young people must be trained to know thoroly the rest of the world, that they may be prepared at any crisis to see clearly the path of right and to follow it unhesitatingly.

Our first duty should be to so reorganize our public school system that the ultimate purpose of all subjects taught shall be the development of men and women who shall have a firm grasp of the great world facts which will fit them for intelligent world-citizenship. The time has come when it is not enough to be a good American citizen. Education must go further, creating first American citizens and then world citizens, in the highest interpretation of both phrases.

This task is not easy, because most of our educational ideas are fixt by long years of acceptance. Of all subjects, geography is the most effective vehicle for the promotion of this new educational purpose. This is geography in the new sense—not the old empirical geography with its deadening succession of memory exercises—but live, human geography, concerned with what the different people in the world are doing and why they are doing it.

This study of human geography provides a most desirable starting point for education for world citizenship. One of its chief assets is its adaptability to use in the lowest grades. There is nothing more interesting to a child than the things that other children are doing. It is a simple matter to take advantage of the normal, open-minded eagerness of children in this respect to interest them in the children of other nations. This is their first point of contact with the rest of the world. Once started in the right direction, the properly trained teacher can guide her students from the purely descriptive phase of geography, which alone is suitable for very young minds, to the more intelligent phase which concentrates upon the conditions of physical environment which are the underlying causes for the manner of life which has been observed. The next step is the study of the causes of the conditions; this is, of necessity, a more complex study, and belongs to the upper grades, including, as it must, the fundamental facts of physiography.

By pursuing this method it is possible to build in the minds of children, block upon block, a structure of geographical knowledge which will serve as a firm foundation for whatever superstructures later scientific study may impose upon it. It gives to children a practical, usable knowledge of their own country and other countries, which can be applied to problems of business and commercial relations, and which will serve as a sound prerequisite for detailed study of history, ethnography, sociology and all the kindred sciences which have their roots in the relations between groups of people.

The new geography is human geography in the truest sense, dealing with the earth's surface as the home of the human race. Its fundamental aim is to demonstrate the effect of physical environment on the development of the human species. People are forced to live largely as their physical surroundings dictate, and the wide variations of topography and climate in the different parts of the world form the largest single factor in the divergence of races and peoples. It does not discount the force of heredity, but seeks to show the ways in which hereditary traits are modified by the compelling necessities of physical environment. It recognizes as its basic principle the tremendous influence of physical environment upon the life and prosperity of nations, and with this principle ever in mind, studies people thru the medium of the conditions under which they live.

In the past the science of geography has concerned itself too much with the political divisions of the world and too little with the natural divisions.* As a result it has degenerated into an empirical study, mainly locational in character. True geography, which gives an understanding of the nations of the earth, in contrast to a mere enumeration of their boundaries, industries, cities, exports and imports, can not be taught on the political basis, for political boundary lines are purely artificial, imposed by the varying fortunes of war, conquest and diplomacy. The new geography takes for its basis the natural geographic divisions of the earth's surface, defining a geographic division as a natural region thruout which the conditions of topography and climate do not differ enough to cause any wide divergences in the life of the people. Geographic study along this line leads the student unconsciously into the interpretative attitude of mind. He learns, for example, that a given set of geographic conditions generally produces a pastoral type of life. If, in the particular region under his consideration, he finds some type of life other than pastoral predominant, he is immediately impelled to seek the causes for this divergence from the normal course of cause and effect. Thus the new geography holds the advantage of continually arousing a scientific curiousity in the student.

Furthermore, in the past geography has considered systematically one country after another, each as a separate subject with little or no relation, except, perhaps, mere contiguity between them. The child has been taught that a certain country has a given area, is bounded by certain other countries or bodies of water, that its chief products are so and so, its principal ports such and such, from which this or that product is exported and certain other products imported in return. It is utterly impossible for such a method to give a fair understanding of one nation to the children of another. It is wrong from start to finish. What the child needs first is a bird's-eye view of the continent he is studying. He must see its plains, its uplands, its mountain systems; he must learn to know its rivers, its coastline, its climate and resources. Then and then only is he ready to progress to a study of the extent to which each separate nation partakes of the various natural assets and liabilities. Then he can understand why each nation raises certain products, why it fails to raise others, why special industries are concentrated in certain areas, why there is an abundance of one product for export, and a shortage of another, which must therefore be imported. In this way only can he acquire a background for a true, sympathetic picture of the people, a concept which will equip him adequately for a future understanding of each nation as an international, political and commercial factor in the world's progress.

With the fundamental facts of physical environment clearly in mind, the mature student is prepared to progress to a more complex study of the problems of ethnography and history. The migration of races and their ultimate distribution becomes an absorbing theme when approached from the geographic angle. The study of race distribution and development serves to show how political factors often submerge and obscure the underlying environmental factors. The new geography seeks from the very beginning to take into account these political factors. It does not seek to stress geographical environment at the expense of hereditary and political influences, but rather to correlate all the contributing elements, natural and artificial, which together shape the destiny of a particular region or people.

Add to geography and ethnography the third member of the triad—history—and the stage is set completely for a full and truly appreciative survey of the nations and races which will constitute a society of nations when that society becomes an accomplished fact. No one of the three is dispensable. History is the record which shows indisputably the effects of all the contributing factors in the development of nations thru the centuries. Only by a study of history as correlated with geography, can the student gain a clear vision of the past as a means to the keen interpretation of the present.

To summarize: The new geography proposes to teach the subject on the basis of the natural geographic divisions of the earth, beginning with the simple facts which the youngest student can comprehend, adding the details as fast as the growing mental capacity will admit, and correlating the facts taught with those of history and ethnography. In this way the student progresses by easy stages from the simple to the complex, acquiring an orderly succession of concepts, and building up a fund of useful knowledge concerning the people of the earth—who they are, where they live, what they do, and why they do it. It is a logical progression, founded upon the relation of cause and effect, the only sound pedagogical method. Only in this way can we hope to prepare our children for the gigantic task ahead of them: that of guiding, not alone the ship of state, but the leviathan of world-wide internationalism thru the stormy seas of racial, national and religious prejudice and jealousy.

HELEN GOSS THOMAS

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IX

COLLEGE SALARIES

The institutions of higher learning are facing a crisis. The number of faculty members resigning to accept other positions is unusually large. The number of students preparing themselves for college teaching has never been so small. The interest in college education as evidenced by increased attendance is greater than ever before. The need of a much larger teaching force and the necessity of paying professors more than ever before presents difficulties that will be hard to overcome.

The newspapers and magazines are rendering unusual service by opening their columns and their editorial pages to discussions of the situation. The inadequate salaries now paid have been published far and wide. Statistics showing comparative annual salaries in all professions and the wages received by workmen in many of the industries are familiar to all. These show by comparison the wholly inadequate pay received by the college teacher.

Boards of trustees and executive authorities in the institutions of higher learning have given the matter unusual consideration for the past three years. It is probable that no institution has failed to do everything its finances would permit to improve the condition. Many institutions have gone far beyond their income and are now carrying large deficits. Conditions of income were such that the increases have had a range of from five to forty per cent with an approximate average of twelve and one-half per cent. The increase in salary bears a ratio to the increased cost of living that is almost negligible.

The absolute essential in an institution of higher learning is an adequate teaching force. Buildings and equipment are necessary. However, if a choice must be made between improved buildings and equipment on the one hand and an adequate teaching force on the other, there should be no hesitation in choosing the latter. The student seeking an education will find fine buildings, great libraries and splendidly equipt laboratories, convenient and even desirable. They are, however, not sufficient for his needs. The necessary and sufficient condition for his growth and development is a teacher. Without the teacher all else is of little value.

The membership of a college faculty should include all types of men so far as temperament, point of view and kind of training are concerned. The members, however, should possess one quality in common, namely, scholarship. This common quality is the source of unity, strength and reputation and is the thing that will ultimately bring to the institution students of the right type. Institutions of higher learning exist primarily to conserve and transmit knowledge. The transmission of knowledge is the act of the teacher. Therefore, the members of a faculty in addition to being scholars, should be teachers. Besides conserving and transmitting knowledge the college or university should perform another important duty, that of enlarging the boundaries of knowledge. A faculty should, therefore, include in its membership those who are capable of exploring the unknown. Research work is not only a tonic to the one doing it but it has a vitalizing and inspiring influence upon all the members of a faculty. The spirit of the college community is improved and the attitude toward knowledge changed for the better by the research activities of members of the faculty.

A faculty should be large enough to carry the work of instruction without overloading any member. The students, at least during the first two years are immature and differ but little from the boys and girls in the two upper classes of the secondary schools. They have neither the maturity nor the ability to profit by lecture methods, or mass instruction. If they get safely thru the curriculum they must have much guidance. The college classes, therefore, should be small enough to make real teaching and individual direction possible. The teaching hours of the professor should be few enough to give him time for study and for the investigation of problems in which he is interested. His teaching load should be light enough to allow him to participate in the administrative affairs of the college and also to take as great a part in the affairs of the community life as is taken by members of other professions. No profession can permanently endure if its exactions are greater than those of other professions and if its members are unable to participate in practical outside affairs.

The students, alumni and friends of a college expect the members of the faculty to maintain a proper standard of living. A professor and his family must live in a good house located in a desirable part of the town or city and assume an appropriate place in the social activities of the community. The professor is expected to dress well, to have membership in one or more clubs, and to contribute liberally to the church and to all benevolent and philanthropic organizations. If he rises to the level expected of him he must either have a private income or his salary must be made sufficient to pay the bills. It is impossible to understand how thousands of men and women in our college faculties maintain themselves as well as they do under present salary conditions. If their sacrifices and hardships were known the public would surely provide the means to relieve the situation.

A paragrapher on an eastern paper in commenting upon the salaries paid to the teachers of his city suggested that the school board should find good vacation jobs for the teachers so that their earnings during the summer might make it possible for them to return and teach during the school year. The necessity of earning money to supplement their salaries lays heavily upon many college teachers. In order to live they must engage in remunerative work during the vacation period. They can not maintain a decent standard of living without doing this. The public would not tolerate such a condition in any other profession or in any other industry. Faith in the solidarity of a bank would be greatly shaken if the cashier were compelled to take other jobs at night, Saturday afternoons and Sundays, in order to live.

Permanent faith and constant adherence to ideals depend very largely upon the source of the ideals. College students get their ideals in large measure from their teachers. Surely the best ideals have better chance in their development if the teacher commands the respect of the student. In the long run he is not able to do this, if he is compelled to maintain a low standard of living and to do various kinds of hack work in fields foreign to his liking. So long as many college graduates are able to begin work a few weeks after graduation at salaries much greater than that paid to their college teachers the respect for the college professor will not be what it ought to be, nor will the ideals that the teacher has striven to inspire be permanent in the life of the student.

One of the important by-products of the world war is the wide acceptance of the fact that the college man has common practical sense that can be used in the commercial and industrial world. So many college men made good in important practical affairs that the demand for their services continues. A surprizingly large number of the very best college men have left college halls to assume important positions at salaries far in excess of those paid them before. This has introduced a new competition into the college world. It is a competition that promises to continue. If the colleges are to retain the service of the most desirable men, it will be necessary to meet this competition.

Sordid as it may seem the biggest factor necessary to meet the present crisis is money. If college salaries are made comparable with the remuneration offered by other professions or in business, most of the present problems will disappear. Adequate salaries will attract into college teaching many of the splendid men and women who are now going into other lines of work.

What ought the salary to be? The answer to this can not be given in dollars and cents. It will vary in different communities and under different conditions of living. Among other things it should take into account certain facts and principles, among which, the following may be mentioned:

1. The salary ought to be more than the wages paid to unskilled labor.

2. The salary ought to be enough to provide a standard of living as high as the students, alumni and friends of an institution expect.

3. The salary ought to provide a living without the necessity of outside work.

4. The salary should be enough to enable the prudent man to save, and thereby make himself independent of any pension or other form of charity.

5. The salary should be large enough to bring contentment and reduce to a minimum the temptation to leave the profession for commercial or industrial work.

6. The salary should be as much as equal preparation secures in other professions.

7. The salary should be large enough to attract into the profession many of the promising men and women now entering commercial and business pursuits.

The campaigning now under way by colleges and universities for increased endowments speaks eloquently of the wide-spread interest in salaries for college teachers. If higher education is to maintain its influence with the people we must retain in the college faculties the best men now there and attract to them the most promising young men of the country. These things can only be done when the provision for salaries is large enough to give men the opportunity to have homes, families, leisure, proper standards of living and provision for old age.

More and more the college graduate selects his life work by a careful study of possibility and accumulated experience. His selection of a profession depends upon his natural bent and ability in part, but also upon the financial possibilities offered by the profession. When he studies the experience of the college graduates who have preceded him and he finds that ten years after graduation, the manufacturer is earning three and a half times as much as the teacher; the broker, ten and a half times; the real estate man, twice; the accountant, one and a half times; the mercantile man, two and a half times; the insurance man, one and three-quarters times; the physician, one and three-quarters times; the lawyer, two and a half times; the transportation man, three and a half times; he is not likely to select teaching as a profession. In studying these experiences he probably notices that in all other professions and employments there is no upper limit but that the upper limit in teaching is very low.

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X

DISCUSSIONS

JUST PAYMENT FOR SERVICES RENDERED

When I was twelve years old I catalogd my ambitions. Reading from my summary of desires I find I wanted to go to the Sudan as a missionary to spread the gospel before all peoples.

Twelve years of seeking and preparing have past since then and I find myself returned from the war with the same desire—to spread the gospel before all peoples.

There is this difference—the Sudan no longer has the great call for me it once had. I have associated with the folks of my own country, and the folks of other civilized countries are little different, and I question whether there is soil more in need of cultivation that the gospel may bear fruit, than here at home.

My experiences in the war have left me deprest. I have lost the rosy hopefulness of the belief in my own people. I do not think they are the great anointed as I once did. I retain my hope in the institutions which are the landmarks of our progress, yet, combating that hope, is the knowledge that less than thirty per centum of the best of our nation, as the soldiers were called, have any conception of their duty as citizens of society. I feel conservative in my estimate.

Business and good pay would make an adequate battle cry for most of our boys; the same boys who have seen France and Belgium with almost impossible chances for either. A job means a place of getting money; prospects means an opportunity for getting more money; sacrifice means thirty dollars a month and reveille.

My two years in the army gave me an incomparable opportunity to meet men, developed and developing. I have talked with many as a private and later as an officer. I have lived with them and messed from the same kit, and what they told me was not colored by any other motive than expressing their views. The result of these conversations have prompted me to write this information for those who may not have had a like opportunity.

In discussing the Salvation Army one day one of the boys remarked, "These guys are a heap different than the pack of 'Jesus-screamers' that belch at you from the pulpit. They're out here feedin' us doughnuts when the rest are sittin' back somewhere in the S. O. S." (Service of the Supply; considered by the line troops as a sinecure.)

The question raises itself, when any of the auxiliary services are mentioned, about the "Y" and I think that an opinion of an artillery buck is representative, "They got too many preachers in it to be any good." The general idea seemed to be that a minister was another title for inefficiency. Aside from the lack of truth of this statement when applied so generally, the fact of the opinion is why I mention it.

If our topic was the venereal question the boys were generally non-committal. They would usually admit their enjoyment of the situations involved and remark that you might as well enjoy yourself while there's a chance! When pay day came around the number of guards were increased to care for the ones unable to carry their load. Figures will show that more than half the court materials were traceable to drunkenness.

These men were good fighters. They were fighting in the noblest cause for which a man can fight. They are the heroes the whole nation is acclaiming today the best men of the country. They are returning to build the nation now and it has been remarked by so many leaders of public life the country is in their hands.

The country is in their hands. What will they make of it? Take an idle hour and speculate on the ways of progress. Men, holding ambitions and opinions which I have described, will shape the country. Assume the seventy per centum rule, and the assumption is that they should rule, and you must agree that the path, at best, can lead only to efficiency in business craft and the governing of desires for the sake of that efficiency. There can be no other end with no other motive.

If you seek for a cause you will begin with the church and say that it has failed in its mission if the great majority of our men have no vision. You may even say that the position of the church is hopeless if for nearly two thousand years it has held the position of guardian of our spiritual welfare and has let us follow Mammon and become kings with asses, ears. You may be right, yet if you remember that the church is the institution for the pedagogy of religion you should, in all fairness, seek the cause of that failure and assist it.

If you are unwilling to lay all the blame on the church, as I am not, you will look to the school and condemn it for its failure to instill the seeds of spiritual motive in the young mind. If you are a teacher you will likely look for an error in the curriculums as teachers have been doing from the time of Socrates. You may find the answer in a curriculum but, with two thousand years of failure as testimony, I feel secure in doubting it. If you say the teachers themselves are at fault we will agree and if you seek to find the reason, we are engaged in the same work.

We need a higher grade of teachers. Recent activity in schools and legislation seem to indicate that this is a truism. Wages are being raised all over the country, with the hope that better men and women will be enticed from other activity into the field of pedagogy. If you compare the wage of the special instructor in vocational guidance, domestic science, industrial arts, business principles and the like and compare these wages with those of the instructor in English, history and languages you are led to speculate on the stress laid on these two phases of education.

If we still agree, this evaluation by wage seems to point to the fact that the value of the man who teaches for business efficiency is considered the important factor in the system of education. You will be led to the conclusion that the schools are expected to prepare for business. If you glance hurriedly at the wage paid to the day laborer—the ditch digger, the puddler, the janitor, the farm hand, the ship builder and kindred minor accessories to business and compare them to the wage of the minister, the school teacher, the social worker and those engaged in welfare persuits generally you will find conformation of this value, society puts on the respective labors of these people. If you are readily overcome by facts you will throw up your hands and say that the people who are giving their lives with a thought to the spiritual life of society are merely being tolerated. You may say, however, that we should take hope from the fact that great institutions are paying more attention to the health and happiness of their people than ever before; these institutions are building houses for recreation for their people, and providing many kinds of amusement, but even as you say it you must remember that these things mean more money to the firms that use them. A happy worker is the efficient worker is an axiom of economics. You are faced then by the first conclusion I presented that the stress of education is for perfection of business.

An example of the attitude of the business employer is my own experience when talking to my friends after my return. They were interested in my welfare and knowing I must soon get to work sought to meet this need by helping me get a job. The openings they suggested were in business houses and the relative merits of these different jobs was determined by the wage accompanying it. I am human enough to be subject to temptation and the flattering wages were temptation aplenty.

Twelve years ago I wanted to be a missionary and today I want to be a missionary; not of a new doctrine or a cubist philosophy but of the meagerly-tried doctrine of Christianity. I believe the potential of environment is impossible to overcome in the grown-up. What hope I have lies with the children. The church must battle with all ages and I assign the old to them with a prayer for their success, but the children are the material for the teacher in the school. We may get better teachers by paying higher wages, at least a living wage; if we can, that wage must be extended to other teachers than those who are business specialists. Attention must be paid to the so-called cultural subjects whose teachers find, or should find, more in them than a polish for a money-making machine.

The solution will only be aided by any environmental change made for the teacher. The teacher must choose his work as the missionary chooses his field, by the call of God. A living wage may make the weak hearted stronger and yet if it is the wage which determines the choice he had better go into business. If it is position in society which calls he had better go into business. If it is power which calls he had better go into the line where he can get the power by wounding less innocent persons than the children entrusted to him. If it is the power of God he wants then he had better get into the school and labor there till his life on earth is spent to save what can be saved of the beauty that God has given to each soul born of women.

In the face of a happy pupil, a happy mother; in the work wrought for service in the name of Christ, which springs from the children of his care; in the satisfaction of a duty well performed he will receive just payment for services rendered.

RAY L. HUFF

PARNASSUS, PA.

THE COMMERCIAL SIDE OF SPANISH

Nearly everyone who has discust the study of the Spanish language admits that it has a great commerical value. That is the big argument used by teachers of schools and colleges to attract students to the study of Spanish, and too, the majority of pupils who take up the language go into it with the feeling that they are going to acquire it to use in business. All over the country we hear people say, "Study Spanish, because we wish to develop trade with South America." Articles constantly appear in the newspapers and magazines dealing with the study of Spanish and urging young men and women to study the language, that it may be a big asset to them when they finish college. All say that there are great opportunities in South America for young people and that, consequently, Spanish should be studied more and more.

First of all let us turn our attention to the different kinds of courses offered in Spanish in the schools and colleges. The study of Spanish is taken up from the standpoint of literature and for the training of teachers. And yet we say that Spanish is of greatest value commercially. In some of the larger city high schools courses are offered in commercial Spanish, but few, if any, of the colleges and universities offer any commercial Spanish. The first year's work is to start a foundation in the grammar with more or less conversation. In the second year either translation from the best works of literature or composition or conversation is given. There is practically nothing offered of a scientific, technical or commercial nature. The third year's work is a study of the novel, drama, or history of the literature. No opportunity is given to the student to develop a commercial or technical vocabulary.

My purpose is to show the need of providing for some course in the second year that may offer the opportunity for a student to obtain a commercial, scientific or technical vocabulary that would suit his needs provided he went to South America on a business mission.

I would have the beginners in Spanish all take the same course to get a good foundation in the main points of grammar and to acquire a common, every-day vocabulary and have a good deal of practise in conversation and composition. Then in the second year we would offer a variety of courses. Those who wished to teach or study the literature I should classify in one course, and those who would care to study Spanish for its commercial value I should put into a class where they might have the opportunity to get some real commercial Spanish. Then, if possible, I would group together the people who wish merely to obtain a reading knowledge of a modern language.

For the course in commercial Spanish I would aim to select materials and textbooks that would build up a true commercial vocabulary. Of the Spanish texts that have been published recently I believe that two would suit my purposes very well. They are Sparkman's *Industrial Spanish*, published by the Allyn & Bacon Company, and Morse's *Spanish-American Life*, by Scott, Foresman & Company. The first one contains material that would very quickly and readily build up a vocabulary of a scientific, technical and commercial nature. The second would be better suited to pupils who may go into the newspaper line or the advertising game.

The study of Spanish is growing all the time. Before the war Spanish was gaining over French and German. During the war, German was practically stopt, while French came to the front. Now we find that Spanish is gaining on French once more. I find that to be true here in Whitman College. Last year French led Spanish two to one; this year they are about even, and next year I expect to see Spanish increase over French.

What is true at Whitman College you will find to be the case all over the country in the high schools as well as in the colleges. There is a great interest in the study of Spanish. People are beginning to forget about the part that France played in the war, and are leaving the study of French to turn their attention to South America, and consequently to the study of Spanish. The great cry is, "The Spanish-American trade must be developed." Hence the increase in the study of Spanish.

The majority of students stop their Spanish after two years' training, due chiefly to the need of the time for their major work. After two years of college Spanish a student certainly has no commercial nor technical vocabulary that he may use provided he be sent to South America by some business firm. He would have to acquire that there and it would take him some little time to get what he needed. My plea is that we should give the student the opportunity to obtain an industrial vocabulary somewhere in the Spanish courses, and preferably in the second year.

So strongly do I feel that not enough opportunity is given to the students to get the commercial side of Spanish, that I intend to arrange my second year's work next year as has been suggested. We all admit that Spanish has a great commercial value. If so, let us show that we are sincere and mean what we say.

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WALLA WALLA WASH.

XI

REVIEWS

Principles of secondary education—By ALEXANDER INGLIS. Houghton Mifflin Co. 1918. 741 p.

In this volume Professor Inglis presents the content of a course in the Principles of Secondary Education as used for several years at Harvard. He has, thruout, had in mind the development of an insight that is fundamental, constructive, and scientific. By careful organization of his content he has succeeded in so coordinating the topics presented as to relate them organically to the underlying factors which he sets forth as determining a secondary education: the pupil, the social environment, and the materials available for the purposes of education. These factors have determined the division of the book into: Part I, The pupils; Part II, The institution and its purpose; Part III, The means and materials of secondary education. The author has made no attempt to discuss principles of teaching or methods of teaching special subjects. These he has reserved for volumes which will appear later. He has tried to overcome or to minimize the obvious dangers presented by the treatment of such a comprehensive subject by a single writer by constant reference to the opinions and findings of specialists. At least two specialists criticised practically every chapter before it assumed its final form.

Part I treats of the secondary pupil with particular reference to his physical and mental traits, individual differences, and the character and classification of the secondary school population. Constant emphasis is laid upon the gradual development which marks the growth of pupils, physically and mentally, and caution is frequently uttered against undue reliance upon correlations between chronological, physiological, and pedagogical age. The individual differences due to biological heredity, social heredity, environment, and sex, and their implications for secondary education are accorded prominent treatment. Emphasis is also laid upon the problems of retardation, acceleration, and elimination as they affect the classification of pupils and the administration of schools.

Part II is devoted to a discussion of the development of secondary education in this country, Germany, France, and England. In determining what should be the character and functions of the school its relation to the social ideals of the nation is strest. The mutual relations between secondary and elementary education receive a chapter as do those between secondary and higher education. The fallacy involved in setting up improper and false distinctions between the elementary and the secondary stage of education is urged as is the necessity for a more careful consideration of problems of articulation between them. A consideration of the mutual influence of secondary school and college terminates in a treatment of the relative advantages and disadvantages of examination and certificating systems for college entrance. In determining the place of the secondary school as a social institution and the adjustments rendered necessary as the school is increasingly called upon to assume functions which other social institutions have relinquished, there is a careful exposition of the changes which have occurred in the life of the home and the community, the church, and the vocation. This section of the book closes with a chapter on the aims and functions of secondary education. Based upon the fact that the pupil must be prepared to discharge his duties as a citizen and as a worker, and also for the proper use of his leisure and the development of his own personality, three aims are proposed: the social-civic aim, the economic-vocational aim; and the individualistic-avocational aim. The underlying elements for which the secondary school must provide, if these aims are to be achieved, are set forth, respectively, as the adaptive, the integrating, the differentiating, the propaedeutic, the selective, and the diagnostic functions. These aims and functions contribute criteria by which the values of the subjects of the curriculum are to be decided, and are fundamental to the discussions of the closing part of the book.

Part III is given over to a consideration of the means and materials of secondary education. It is opened by a chapter on the underlying values of subject matter, treating of direct and indirect values, and the problem of the transfer of efficiency. There then follow chapters on the place in the program of studies of English, foreign languages, mathematics, natural sciences, social sciences, practical and vocational arts, and physical education. The treatment of these subjects includes their historical development, present status, direct values, indirect values, transfer values claimed for them, and criticisms of their present organization. The treatment of the organization of curriculums which closes the book is determined by the aims and functions agreed upon as basic earlier in the book. Space is also found for a brief discussion of special problems such as the organization, respectively, of vocational secondary education, instruction, extra-curriculum activities, educational guidance, and student self-government.

Features that make the book specially valuable for the student of secondary education, the teacher, and the supervising officer are found in the more than 150 tables based on recent reports and special investigations that are scattered thruout the book, in the very pertinent and suggestive problems for further consideration, and in the selected references to the literature of the subject arranged topically at the end of each chapter.

The volume is notable for its comprehensiveness, its systematic organization, its scientific treatment of the problems included, and its close connection of theory and the most highly approved practise in the field it covers. It is thoroly in accord with the most recent progress in secondary education, and highly practical in its conclusions and recommendations. It gives promise of exerting a large influence, and should be read by all who wish to grasp the underlying philosophy of contemporary secondary education.

FRANCIS H. J. PAUL

DEWITT CLINTON HIGH SCHOOL
NEW YORK CITY.

The realities of modern science.—By JOHN MILLS. The Macmillan Company, 1919. 327 p. $2.50.

From time to time attempts have been made to describe in considerable detail in a form capable of being understood by the general reader or elementary student the fundamental concepts of physical science. The need has long been felt for a presentation suitable for the reader who is not a specialist, but who wishes to learn about the modern theories regarding the physical world without passing thru the long preliminary training period which our present methods of teaching are apt to demand. To what extent science can be thus popularized is a matter of much doubt.

The author of *The realities of modern science* believes that it is possible to so present these concepts, and this volume is an attempt to introduce the general reader to the study of physical science, including physics and chemistry, without exact or abstract formulation. The author hopes also to point out the way to a better introductory course in physical science for college students and offers this volume as a suggestion for an outline of such a course. He makes a strong protest against the method of presenting science in a divided and subdivided form and emphasizes strongly the need for a broader treatment. In his opinion no phenomena which are fundamental are too difficult to present to the beginner and he does not hesitate to bring into the discussion most of the recent discoveries and theories of physics and chemistry.

The volume is based on what the author takes as the two realities of science, matter and energy, two indestructible things in nature. All physical phenomena, including those of mechanics, electricity, thermodynamics, physical chemistry, and the like are described and explained in their relations to matter and energy. In this respect a departure from the more commonly followed treatment is made. The study of matter is based on the theories of its atomic structure, the major portion of the book being given up to a description of the behavior of the electrons, atoms and molecules.

The first five chapters give a history of the development of modern methods of scientific research with much rather free speculation as to the intellectual processes involved. In these chapters the discussion of the discovery, by the ancients of the simple mechanical machines, such as the lever and the inclined plane, is taken as occasion for the discussion of the mechanical principles involved in such devices, including the laws of friction and the application of the principle of work to the motions. It is questionable if the general reader knows the meaning of work sufficiently well to understand this. Thruout the volume the author follows the plan of digression to discuss the different physical phenomena, as they are suggested by the general discussions. A brief description of wave motion and its relation to energy and the dependence thereon of our preceptions, is followed by a description of the molecular composition of matter with its historical background. The structure of the atom in terms of the modern electron theory follows with much detail, all given very hurriedly. In a much too brief manner the difficult ideas involved in energy are covered in the next few pages.

The author after giving up two chapters to some of the elementary mathematical processes necessary to understand what follows, then proceeds to develop the physical laws from the fundamental relation of energy. Force is treated as the space rate of energy. The kinetic theory of matter and temperature follows with a set of well-chosen analogies, but with derivations of the relations involved too difficult to be followed by the general reader.

The motion of electrons and its relation to electrical convection and conduction currents are the subjects of the next chapters. Treated from the point of view of molecular theory, with emphasis on the energy relations, follows the discussion of the laws of gases, vapor pressure, solutions, electrolytic dissociation and chemical equilibria. These are apparently discust as illustrations of the wide application of the atomic theory, altho the general reader has hardly sufficient knowledge of the subjects to appreciate the many references and technical illustrations.

The volume ends with a description of the determination of the size and motions of the molecules and electrons.

The book is full of valuable suggestions as to methods of presentation, excellent illustrations and analogies. For the teacher it contains many valuable ideas. The author has not been very successful, however, in presenting the subject to the general reader. Too many references are made to phenomena, each of which requires a careful and elaborate treatment to be understood, and it is not possible for one without a rather broad training to follow the quick jumps from one to the next. In a treatment covering this vast amount of ground only the simple ideas can be driven home and subjects included in this book such as surface tension or Van der Waal's equation will bewilder the general reader. Thruout the volume there is a too conscientious adherence to rigorous statements and attempts to make the statements very complete have resulted in a lack of clear presentation.

HAROLD W. WEBB

COLUMBIA UNIVERSITY

The exceptional child—By M. P. E. GROSZMANN. Charles Scribner's Sons, 1917. 764 p.

"The purpose of the book is to give a perspective of the entire situation (of the exceptional child), and to suggest ways and means of coping with the problem in its varying aspects. It is plain that the problem is one which presents more than one feature. It is concerned with educational procedure indeed. But the character of the human material which is to be educated plays a fundamental part.

Thus, questions of heredity and family history; of environment and social-economic conditions; of child hygiene and public sanitation; of medical inspection and clinical work; of psychologic and psychopathic investigation, and other elements too numerous to state enter into the discussion. Our investigation will take us into the juvenile courts and into the hovels of crime and prostitution; into the almshouses and charity bureaus, and wherever human woes and shortcomings are studied and methods of relief are considered."

The book is divided into four parts. The first part has to do with the problem of the individual child. The lack of adaptation of educational methods to the needs of the individual child is considered one of the most serious defects in our public educational system. The author presents his classification of children as a basis for the application of special methods adapted to each class. Normal children are those who possess the potentials for normality. This class in addition to children recognized to be typical, includes those of unusually rapid development, those neglected or difficult to manage, the neurotic, neurasthenic, psychasthenic, and those mentally retarded thru special physiological or physical causes, such as difficulties of nutrition, chronic catarrh, and the like. The subnormal class includes the children whose potentials are incomplete or permanently underdeveloped and who will always be essentially subnormal. Such are the physically defective, blind, deaf, dumb, and epileptic; those of arrested development either thru hereditary factors, accident or disease or thru faulty environmental influences; and those of atavistic development, representing primitive types mentally, morally or socially. The abnormal class includes the idiots, imbeciles, feebleminded and insane, that is, all who can not maintain an independent existence. Each of these classes is discust in detail.

The second part deals with the methods of diagnosis used in the classification of children. Binet and his followers are criticized for their use of a year scale of mental age and for their choice of individual tests. The author presents his own examination system, comprising a full history of heredity and early life, physical measurement, medical examination and a scale of sensory and mental measurements. The Binet tests should be compared with the mental-measurement part of his system only, for surely no advocate of the Binet tests considers a complete physical and medical examination unnecessary. The Groszmann mental tests are very elaborate and even in their shortened form require much more time than the Binet tests. Instead of measuring in terms of years of mental age, the records are in terms of five growth periods; infancy period, primary period, elementary period, intermediate period and advanced period.

The third part of the book discusses the "problem of how to meet the conditions causing mental failure in life, whether the individual so endangered be really normal or potentially normal, or exceptionally bright or dull or psychopathic, physically defective, subnormal or abnormal." The author discusses the legal provisions for exceptional children, their home conditions and school life as well as institutions and sanatoria for their treatment. Finally the training necessary for teachers of exceptional children is discust.

The last part of the book, the appendix, contains a medical symposium including contributions from twenty-five medical men upon topics more or less closely related to the problem of the defective child. There is also a series of specimen examination reports and a classified bibliography of over three hundred titles.

The book is written in simple language, is well arranged and will be a valuable aid for the reader who seeks an introduction to the study of the exceptional child.

A. T. POFFENBERGER

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XII

NOTES AND NEWS

The Bose Research Institute

The wide-spread interest excited by the recent demonstration of his crescograph by the distinguished Indian man of science, Sir Jagadish Chandra Bose, lends a special interest to the recent account published in the London *Times* by his research institute at Calcutta.

When delivering the inaugural address and dedicating the institute to the Indian nation rather more than two years ago, Sir Jagadish said that when he chose the teaching of science for his vocation a generation back it was generally held that by its very constitution the Indian mind would always turn away from the study of nature to metaphysical speculation. At that time, even had the capacity for inquiry and accurate observation been assumed, there were no opportunities for their employment; neither well-equipt laboratories nor skilled mechanicians existed. Little or nothing had then been done to breach the almost exclusively literary mould into which higher Indian education had been directed. Even now the mistake has been but partially remedied. What the Sadler commission says of the Calcutta University applies to the other provincial universities; the courses of instruction are too predominantly literary in character and too little varied to suit differing needs, nor is there adequate provision for training in technical subjects.

In a general survey of educational changes in his last quinquennial report Mr. Sharp noted in respect to courses a growing recognition of the claims of science, illustrated by the appointment of science inspectors, the creation of a faculty of science in the University of Bombay, the completion of the Royal Institute of Science there, and the popularity of science courses in the Punjab.

To these changing conditions Sir Jagadish Bose has influentially contributed. Indians are justly proud of the possession of a few men who have gained world-wide recognition in their particular fields of activity, and this pride reacts strongly upon public opinion. A quarter of a century has past since one of the most difficult problems connected with electric waves found its solution in Professor Bose's laboratory, and the Royal Society published his discoveries and spontaneously offered an appropriation from the national grant for the advancement of knowledge. There followed his construction of a receiver to detect invisible ether disturbances, and after a long interval his discovery of the identity of response and automatic activity in plants and animals, and of the nervous impulse in plants. His deputation, in 1914, by the Government of India gave opportunities for demonstrations of his various discoveries before the leading scientific societies of the world. The further progress since made was shown in the lecture on Tuesday.

At the Research Institute, opened two years ago, a group of Indian post-graduate students, admitted without fee and living on a pittance, devote their lives to research in physiology and medicine. The public Transactions of the Institute show that under the leadership of this eminent Bengali, Indian research is making substantial contribution to scientific knowledge; that in this field there is no fundamental difference between the western and the eastern mind, as was assumed when Sir Jagadish began his work. It may be, as one writer has said, that the bent of research and the color of theories will take something from the inherent qualities of the Indian mind; but the faith in ascertainable truths and the appeal to facts can underlie that research and those theories equally well in India and in Europe. In this no less than in other fields of knowledge India has her special contribution to make. Sir J. C. Bose's work has shown that thru her meditative habit of mind she is peculiarly fitted to realize the idea of unity and to see in the phenomenal world an orderly universe. This habit "confers the power to hold the mind in pursuit of truth in infinite patience." Mr. Balfour observed that the discoveries explained in the lecture had excited curiosity even more perhaps than they had satisfied, and that this was fitting. What we wished was not to reach the end of knowledge, but always to be progressing, and always to feel that each new step in progress pointed out unexpected vistas into the unknown which it might be our future or the future of our children to penetrate.

The ideals of the Institute are very high. The lecture hall will hold 1,500 people, and new discoveries are demonstrated before the general public. Thru the Transactions they become available to the world at large. No patents are taken out. "The spirit of our national culture," says the Professor, "demands that we should forever be free from the desecration of utilizing knowledge for personal gain." Besides the regular staff, there are selected scholars prepared to devote their whole life to research. The facilities of the Institute are available to foreign workers as freely as to Indians. In this respect Professor Bose seeks to carry out the ancient tradition of India, where some centuries before the Christian era scholars from different parts of the world were welcomed at the great universities of Nalanda and Taxilla. The Institute is not linked in any way with the Calcutta University, but has received substantial government assistance, and has also attracted benefactions from a few wealthy Indians. It includes an experimental station at Sijbera, on the Ganges, and a research station at Darjeeling, where climatic conditions are favorable to patient investigation.

A Royal commission on Oxford and Cambridge Public announcement has been made of the appointment of Royal Commissioners to consider the applications which have been made by the Universities of Oxford and Cambridge for financial assistance from the State, and for this purpose to inquire into the financial resources of the universities and of the colleges and halls therein, into the administration and application of these resources, into the government of the universities, and into the relations of the colleges and halls to the universities and to each other, and to make recommendations.

The Commissioners constitute one body, but are authorized to sit for purposes of inquiry in three separate committees. They consist of the following:

CHAIRMAN OF COMMISSION

The Right Hon. H. H. Asquith, K.C.

OXFORD COMMITTEE

The Right Hon. H. H. Asquith, K.C. (*Chairman*).

The Right Hon. Lord Chalmers, G.C.B., late Secretary to the Treasury.

The Right Hon. Sir John A. Simon, K.C.V.O.

The Very Rev. T. B. Strong, G.B.E., D.D., Dean of Christ Church, Oxford.

Sir H. A. Miers, F.R.S., Vice-Chancellor of Manchester University.

Professor W. H. Bragg, C.B.E., F.R.S., Quain Professor of Physics in London University.

Professor W. G. S. Adams, Gladstone Professor of Political Theory and Institutions, Oxford.

Miss Emily Penrose, O.B.E., Principal of Somerville College, Oxford.

Mr. Albert Mansbridge.

CAMBRIDGE COMMITTEE

The Right Hon. G. W. Balfour (*Chairman*).

The Right Hon. Arthur Henderson, M.P.

Sir W. Morley Fletcher, K.B.E., F.R.S., Fellow of Trinity College, Cambridge.

Sir Horace Darwin, K.B.E., F.R.S.

Mr. G. M. Trevelyan, O.B.E.

Dr. H. K. Anderson, M.D., F.R.S., Master of Gonville and Caius College, Cambridge.

Miss B. A. Clough, Vice-Principal of Newnham College, Cambridge.

Dr. Montagu R. James, LL.D., Provost of Eton College.

Professor Arthur Schuster, Fellow and Secretary of the Royal Society, and Hon. Professor of Physics at Manchester University.

COMMITTEE ON ESTATES MANAGEMENT

The Right Hon. Lord Ernle (*Chairman*).

The Hon. Edward Strutt.

Sir Howard Frank K.C.B.

Sir J. H. Oakley, Past-President of the Surveyors' Institution.

Mr. H. M. Cobb, Fellow and Member of the Council of the Surveyors' Institution.

The secretary of the Commission is Mr. C. L. Stocks, an Assistant Secretary to the Treasury. There are three assistant secretaries to the Commission—namely, for the Oxford Committee, Mr. Marcus N. Tod, Fellow and Tutor of Oriel College, Oxford; for the Cambridge Committee, Mr. Edward Bullough, Fellow of Gonville and Caius College, Cambridge; and for the Estates Committee, Mr. C. B. Marshall, of the firm of Lewin Gregory and Anderson.

The appointment of this Commission was forecast by Mr. Fisher on July 9 last in reply to a deputation from the Education Committee of the Labor Party. In a leading article on the following day the London *Times* stated that "the inquiry is to be made the preliminary to a system of state grants, accompanied by some measure of state control, under which Mr. Fischer has promised that the autonomy of the universities will be fully preserved." Preliminary grants to Oxford and Cambridge of £30,000 each have since been announced.

EDUCATIONAL REVIEW

APRIL, 1920

I

THE ALTRUISTIC IMPULSES OF OLDER HIGH SCHOOL STUDENTS *

A high school boy of 18 was greatly stirred by the ravages of the influenza epidemic in the winter of 1918–19. "Thousands of people were dying," he writes. "What hurt me most of all was the death of the smaller children...... I resolved, if it was possible, to help check this disease. I distributed circulars to many hundreds of people and in this way they became acquainted with the cause and treatment of the 'Flu.'" This boy plans to get a general college education and then become a certified public accountant.

A girl of 18, a junior, writes that she had an ambition at the age of 17 to "help the poor children who were mistreated in orphan houses." She continues, "I saw a moving picture in which the matron mistreated the children, I also read a piece in the paper...... I do not think the condition is really as bad now as it used to be, and I think that the picture I saw was probably just some made-up stuff. Still the piece in the paper must have been true, and after I have been working a little while and have made some money I shall visit some orphan houses and see if I can help any." She states she does not have the ambition now, but later adds: "I have not really given it up, but I do not know how to get at this trouble, and I can help by making money and giving the children some pleasure in this way."

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* No attempt is made in this paper to deal with the nature of altruistic impulses or with their etiology. Altruism is treated here only objectively. As used in this article, it does not necessarily imply self-sacrifice; it signifies simply a sincere interest in the well-being of others.

A boy of 16, in his last year of high school, writes that at the age of 15 he had a strong ambition "to regulate immigration to the most skilled and then close up the slums and educate the people." He had read *The Honorable Peter Sterling*. "The same afternoon I finished this book," he says, "my father called up and asked to have me come to his factory. On the way, as the factory is on the opposite side of the city, the car past thru the dirtiest part of the city. Naturally I noticed everything and connected it up with all I had read. In this way the ambition grew."

Debating made one girl ambitious to help the people of the slums. "In order to prove my points," she writes, "I went to work in a factory during my Christmas vacation. That one week turned my soul."

These and other statements of a similar character were obtained during the spring of 1919 from 975 high school students living in 16 representative cities of the United States. They were made in response to a questionnaire carefully formulated after several weeks of experimentation. Of the total number, 425 were boys and 550 were girls. A large majority of the students were in their fourth year or in the last half of their third year in high school. The modal age was 17. The questions were presented under uniform conditions necessary for statistical accuracy. There was no selection on the basis of interest. Replies were obtained from entire classes. All students were specifically instructed not to sign their names to the question blanks. Teachers conducting the questionnaire were given specific directions, most of which were read to the students twice. Thereafter, the teachers testify, no comments were made and no questions answered. Particular care was taken to get honest replies. "Altho it is sometimes difficult," the students were told, "to be absolutely frank with one's self in analyzing one's own motives, in order that your replies may have scientific value you are especially requested to be entirely frank in answering all questions.

For scientific purposes, the answer 'No' is just as valuable as the answer to any 'Yes' question." There were rejected a considerable number of replies obtained by teachers who failed to state that the inquiry was conducted according to directions.

The answers bear evidence of having been prepared with earnest interest. Only one seemed to have been filled out in a spirit of disrespect. This was rejected. It is believed that the selection of cities, the number of replies received and the other conditions of the inquiry justify important generalizations.

I

Let us first seek to discover how much altruism there is in the lives of junior and senior high school students.

1. The question bearing most directly upon this point was very carefully formulated after considerable experimentation.[1] On the blank finally used, it appeared as follows:

> (Read this question carefully.) Previous to the present school year, did you ever have, for a period of at least several days, a strong ambition to give your life in helping certain classes of people who are suffering from poverty, ignorance, disease, vice, dishonesty or crime or in preventing these evils? (Yes or no)..............

Every student answered the question; 59 per cent replied "Yes." The following table shows the results:

	No. answering "Yes"	No. answering "No"	Total
Boys..............	201 (47%)	224	425
Girls..............	377 (69%)	173	550
Total............	578 (59%)	397	975

To many 59 per cent may not seem to be a large proportion. An unusually high degree of honesty, however, for questions of this kind seems to have been obtained. Also the wording of the question, which they were asked to read carefully, should be considered. But before evaluating these replies, let us continue our study, bearing in mind the percentage of affirmative replies, to discover the quality of these ambitions and what becomes of them.[2]

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[1] Replies received from more than 375 students in connection with one experimental study were rejected because this question was so stated as to suggest to the minds of students altruistic motives of which they might not otherwise have thought.

2. The next question applies only to the affirmative group:

> If so, state specifically, in concrete terms, just what you hoped you could do.

All but six of the girls and fifty of the boys replied. A study of the answers shows a wide range of interest, but their classification reveals no especially significant interest in particular fields of social endeavor.

Many seemed unable to state in concrete terms just what they hoped to do. A deep earnestness, however, is manifested by many of them. Said one boy: "I hope to be at the head of something very great and to remedy and build until all grievances are destroyed." And he continues in answer to a later question, "I propose to take law, win political power, and run for the presidency." Other similar replies follow: "I wanted to make the poor happy." "Help in some way the worthy people struggling for an existence." "Learning about some of the needs of people, I decided that I would earnestly like to train myself so as to prevent their vices, if I could, in years to come."

Other ambitions are more definite but naïve: One student wrote, "Hoped to go to them in person (people who are suffering), comfort them, talk to them and give all I could." Another wanted to "bring about regular physical exercises and examinations for each citizen." Others exprest their aims as follows: "Hoped to help at least one family who were spending their little money for liquor." "Hoped to clean the poor dirty children." "To abolish strikes."

Apparently a majority of these boys and girls with social aims want to alleviate human suffering. Even tho the idea of prevention is suggested by the question, they have not yet acquired the modern social view-point that many social evils are preventable and that it is far better to prevent an evil than it is to alleviate or cure it after it has developed. The following replies show how the old idea clings: "I had even gone so far as to be willing to live just as simply as possible and give as much of my money as I could to charity organizations." "I hoped that I would be rich enough to care for sick babies suffering from paralletics." "I wanted to give them money to live on and I did give them old clothes."

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[2] In response to another question, "Would you like to take up a scientific study (thru sociology and similar subjects) of the causes of human suffering and method of improving social conditions, as a part of your high school work?" 70 per cent said "Yes." The tabulation and sample replies are omitted for lack of space.

Definite and practicable plans appear to be in the minority. One student wanted to "teach in the mountain schools of Kentucky or Tennessee." Others replied as follows: "To study hygiene and then write about it in a simple way so as to teach others to get health." "Hoped to bring about the passing of a law giving more pay to laborers." "Provide a fund from which a pupil might borrow to pay for college." "I hoped to be some time capable of building sanitary homes and establish good living conditions." "To inform people about the dangers of venereal diseases." "Better prison conditions."

3. The next question follows:

What led you to have this ambition?

The distribution of replies will bear careful study:

Cause	Total times given	Times given by boys	Times given by girls
Observation	337	130	207
Reading	94	27	67
Influence of some person	28	5	23
Public school	23	4	19
Church or Sunday school	21	3	18
Home influences	21	10	11
Motion pictures	15		15
Lectures	16	3	13
Miscellaneous causes	28	13	15
Cause not given	20	12	8
	603[1]	207	396

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[1] This total is 25 in excess of number replying "Yes" to earlier questions because several students named more than one cause of their ambition.

The following are replies from students who cite observations as a cause of their social impulses: "Whenever I past a group of tenement houses and saw children in rags playing in the filth, the ambition to better those conditions came over me." "I saw an Italian woman cruelly beating a child." "Because of my experience in a pharmacy in seeing many young men affected with venereal diseases." "A sight of the slums in New York." "I was working among miners and came in contact with their lives a great deal." "One little girl had to come to school without enough clothes and didn't have any lunch."

From those who refer to the influence of reading come these replies: "A book in which very bad factory conditions were bettered by sanitation." "Reading Riis' *How the Other Half Lives*." "*The Jungle*." "Books by Jane Addams and Jacob Riis." "*Blue Bonnet*." "Mary Antin's *Promised Land* and Jane Addam's *Twenty Years in Hull House*." "*The Abyss*." "F. L. Rawson's books."

The following refer to the influence of some person: "Talking with a woman social worker friend of mine who had become deeply attached to her work." "The pitiful stories mother brought home as a result of her contact with the people." "The work of my father."

The influence of church and Sunday school was referred to as follows: "A church revival." "A sermon I heard." "I was teaching a Sunday school class down in the slums of the city and saw the need of help."

A few samples of replies grouped under "home influence" follow: "My general home training." "Missionary training at home." "My parents were both physicians and did work for many of the poor."

And finally a number of replies are given from those students who say the public schools have influenced them: "My own gymnasium teacher and the good she taught me." "Study of agriculture." "Study of eugenics and heredity in my science course."

"Biology work in high school." "The course offered in sociology." "Study of economics." "Study of sociology." "Study of disease during my first year of high school." "Study of physiology."

Only 23 out of 584—4 per cent—mention the school as the source of their social aspirations. Almost as many refer to the motion picture, the widely criticized "movie."

4. They were then asked:

Have you this ambition now?

All the 578 students who first reported ambitions answered. A table of results follows:

	"Yes"	"No"	Total
Number of boys	135	66 (33%)	201
Number of girls	223	154 (41%)	377
Total	358	220 (38%)	578

Over one-third, then, frankly state that they have abandoned their desires and plans to help others. Many of these are the boys and girls who were most eager to make the world a better place in which to live. Why have so large a proportion given up? Let us proceed to the answers of the next question.

5. Those who said "No" to the preceding question were asked:

If not, why have you given it up?

The distribution of replies follows:

Reason given	Total times given	Times given by boys	Times given by girls
Found plans impracticable or unnecessary	92	24	68
Lack of ability	45	16	29
Lost interest	36	15	21
Didn't know why ambition was given up	16	7	9
Felt too selfish	4	2	2
Miscellaneous answers	2	2	
No answer	25		25
Total	220	66	154

The reason given by the largest group was that they had found their plans impracticable or unnecessary. Samples of these replies follow: "Because I must earn a livelihood." "Parents are opposed." "The state is supposed to (look after poor sick children) but does not. How can one person?" "Time has taught me that it has always been the same (the condition of the working class) and it can not be remedied." "Because it is impossible." "I have given it up (desire to help the poor, especially children of drunken parents) because I think the country will be better after it goes dry." "Because the war has ended." "Because I see they are suffering from poverty because they do not want to work. They are lazy."

From those who give as a reason their lack of ability come these replies: "Lack of knowledge of how to go at it." "I am financially unable to carry it out." "I have not the training and knowledge." "Sense of lack of personal fitness."

Among the replies of those who have lost their interest are the following: "It does not appeal to me any more." "Lost my desire for nursing."

Of the 220 who stated they had given up their social ambitions, four say they are now too selfish to carry them out and 36 state they have lost interest. Together these make only 18 per cent of the total. The others have found their plans impracticable, they feel helpless to carry them out, or they seem not to know why they have abandoned them. The replies of many seem to indicate that they have had little or no encouragement, that no one has helped them understand the conditions which they have wanted to remedy.

6. Those who said "Yes" to the question, "Have you this ambition now?" were then asked:

> If you still have this ambition, just how do you propose to carry it out?

A tabulation of replies follows:

Plans	Total times mentioned	Times mentioned by boys	Times mentioned by girls
By engaging in social service, educating people, writing, entertaining, church work, abolishing tenements and other specific reforms without reference to academic preparation..	164	58	106
By voting, being a good citizen generally, setting a good example or using influence........................	54	34	20
By attending professional school and becoming a doctor, lawyer, nurse or teacher..........................	43	17	26
By getting additional general education.	33	9	24
By studying sociology, economics or government......................	6	3	3
By getting a position to earn money to give to the poor..................	4	3	1
No answers........................	60	17	43
Total...........................	364[1]	141	223

[1] This total is 6 in excess of number replying "Yes" to previous question because several students gave more than one plan.

A majority, it is observed, appear not to recognize a need for educational preparation in carrying out their ambitions. In giving their answers, they may have assumed that training would be necessary. It is perhaps more likely that they thought nothing about it. A girl who wishes to prevent disease would proceed by "telling people all I know about disease," she says, "and by reporting unsanitary places to the Board of Health;" a boy would help the poor by becoming a "social welfare worker;" another boy would help children in the slums "by bettering slum conditions" without bothering apparently to train themselves.

The next largest group are less ambitious. They seem utterly ignorant of any effective procedure by which they may carry out their plans. A girl says she would help the needy "by doing all in my power to help them;" a boy would combat crime and graft by "voting for the right man and helping others to do the same;" a girl wants to "give poor people a chance to earn a salary that would enable them to live comfortably," but "I have no plans," she says, "but by my vote, when of age, I shall try to carry out my aims."

It was clear to 43 out of the 358 that if they were to help the sick or to engage in similar lines of work a professional education would be necessary.

Only six recognized the importance of studying, thru sociology, economics or government, the problems which they were ambitious to help solve.

It is true the question did not refer to the need for preparation of any kind. Forty-nine (the 43 and the 6) recognized this need; why a larger number did not, is a question for thoughtful consideration, especially when so many persons in public life are attempting to solve our social, economic and political problems without even an elementary knowledge of the basic facts and principles in these fields.

II

A better understanding of the aspirations of these young people may be obtained from a study of their responses to a request for "a brief and frank autobiographical sketch" of that part of their lives in which they had the ambitions discust above.

The following are not selected at random. They are used either because they are the most interesting or because they show a higher degree of social purpose than do most of the replies. But they are only a few of many which might be quoted if space permitted. They suggest a rich field for the teacher interested in the development of intelligent citizenship:

Girl of 18, 4th year.—At 11 she was ambitious to tell people how "to live more comfortably on the money they had." She was influenced to have this ambition by a trip thru the Bowery district in New York. She writes:

> "During a visit to New York, I made a trip thru the Bowery district. The terrible squalor so impressed me that I resolved to give my life to helping better conditions. The winter which followed was one of keen suffering when thousands were thrown out of work. My father, being the minister of a large and wealthy city church, was called upon incessantly to find work for poor people. They came to our home by the dozens, often so weak from hunger they could hardly walk, carrying babies and leading older children,

because there was no fuel for fire at home. One woman, I remember especially, came weeping to our home late one Saturday night. She said she had a child dying with pneumonia and that there was no fire, no light, and no food at her home. Upon investigation, we found her story to be absolutely true. I determined to spend my life among these poverty-stricken people. But now my ambition has changed. I intend to get a college and university education, perhaps travel abroad, and then take up whatever occupation for which I find myself most fitted. But having spent so much time and money in preparing for my work, I hope to be able to earn enough so that yearly I may be able to devote an appreciable sum to philanthropic work. But I intend to know where this money goes, because, from experience, I know that all money given thru philanthropic organizations does not reach the kind of people I wish mine to reach."

This girl does not know what sociology, economics and social ethics are. She will likely choose for a vocation "the teaching of languages." She answered "Yes" to the question "Would you like to take up a scientific study (thru sociology and similar subjects?) of the causes of human suffering and of methods of improving social conditions, as a part of your high school work? (which preceded the question regarding social ambitions), "because," she writes, "my desire is to receive the best possible education, and to be well educated, one must be informed along all lines." Even tho the form of the question is suggestive, she fails utterly to see any direct relation between her education and her choice of a vocation.

Boy of 16, 3rd year.—At 10 he was ambitious to help the oppressed. He writes:

"I have always been at heart a soldier and statesman, but for a purpose. I care little for power except that with it I can help others. When about 10 years of age a dream was born in me which has elaborated in such a degree that my whole life is now centered upon it. To my eyes, the only way to reform is to be at the supreme point and to have each reform carried out by law. I think that the only way for a poor man to arrive at the top is thru the army. He can never arrive there without the best training, so I intend to go to West Point. But a West Point education will not place him there. He must study outside. In our library I have procured every book written on the art of war and the great captains. I have studied maneuvers, tactics, and above all strategy. Then I have taken chassmen and on a large table, using knights for cavalry, pawns for infantry, etc., I have thought out my own campaigns and battles. And when a country was defeated or I was defeated I have used diplomacy and statesmanship. These things one can not acquire in school but must learn them by himself. So if I do not arrive at the top I can remember that I did all I could to get there."

Asked how he proposes to carry out his ambition, he writes: "I will enter the army and rise. When I have an army at my back I will be the government and thus will change many things."

Boy of 16, 4th year.—At 15 he wanted to eliminate the unfit from society. He got the idea from "motion pictures, talk with other people, and personal observation." He writes:

> "People who are poor can usually blame themselves because they have not been educated to thrift. If a person is thrifty and deprives himself from spending foolishly he will some day become wealthy. For people who are weak, diseased, dishonest, and subject to vice are weak and should be exterminated or made to live by themselves away from other people, so they might not harm respectable people. If all people having disease, vice or dishonesty were exterminated and the rest educated our old world could not help becoming a more peaceful, loving and good place to live in. This is the only way I can possibly imagine a betterment of civilization."

He says he does not have this ambition now. He has given it up because "it is useless to try and help them further than educating young people who in the future will not make the same errors as their parents."

Boy of 18, 4th year.—At 16 he wanted to help the poor. He writes:

> "To go to high school I had to work after school. Some time ago I lost my job and found it impossible to meet the growing expenses of going to school and paying for my clothes. Prices were going up then and I came to realize that the life of the poor man is not very delightful. It was then that I got the desire to break the speculators and put the things that made life a joy within the reach of every one. But as my condition became better I saw that this would be impossible, because it would encourage thriftlessness and vice. (How naïvely honest!) Some people do not want to make their conditions in life any better."

A boy of 18, 4th year.—At 14 he was ambitious to conquer poverty. He writes:

> "I was born in Russia and lived there the first six years of my life. Altho very young, I had suffered the severities of the Romanoffs. My family came to this country and we became citizens. As I grew older I became more aware of the evils in this country, both from study and from reality. I always thought there was some cause for all evils and I gradually drew my conclusion that it was poverty. Personally, I am a clean cut fellow. I do not smoke, chew, drink, gamble, and I do not abuse myself in any way. Thinking that all my associates should be as clean cut as I am, I set to work trying to reform them. I succeeded more or less, but ever since I became radical in

> my views. The only remedy I found for this was socialism. You may think I am rather young to preach socialism, but let me tell you, I am young in years but I have suffered enough from these evils to be old in experience."

He still has the ambition. He writes, "I have not given it up nor will I until the last minute of my life." He proposes to carry it out "by putting all the big trusts and money making concerns in the hands of government." Surely the high school has a responsibility among such boys. Repression of misdirected but earnest ambitions will do no good. The school must save its students from dangerous radicalism, by showing how social reform may be brought about in a peaceful manner.

A boy of 16, 3rd year.—At 14 he wanted to build a home for the blind. He writes:

> "If I wanted something real bad (very much), I could get it, providing the article would be of some use to me. * * * It seems to me that a blind person loses all the joy of life, especially if he is poor. Consequently, I began to think that I was just one of a hundred million in U. S. and if I could do something for just a few, I could say that I was worth something."

He still has the ambition and proposes to carry out "by becoming educated and earning enough money."

A boy of 17, 4th year.—At 12 he hoped to relieve suffering by improved surgical methods. He writes:

> "I broke my leg—was in the hospital and saw hopelessly diseased men, cripples, physical and moral wrecks. Suffering was on every side of me. I observed the interest of the doctors in their work. I was interested also. Again I broke my leg. I saw more. I saw an intricate operation on a brain. My mind was made up."

He says in answer to an earlier question, that he does not want to study sociology. His purpose in choosing medicine is to get into an interesting occupation.

A girl of 17, 4th year.—At 15 she wanted to better the conditions of the poor in the large cities, especially children. She writes:

> "During my sophomore year in English, I read for the first time Mary Antin's *Promised Land.* This is the story of a poor Jewish girl, who came to America from Russia, and lived in a large eastern city. Her life was not particularly a happy one. After having finished the book, I made up my mind to devote my life, trying to better the conditions of the poor in our great cities, especially the betterment of the lives of the children."

A boy of 18, 4th year.—At 16 he wanted to help make living conditions better. He was influenced by seeing "men who sat in a leather chair all day exploiting both the farmer and consumer." He writes:

> "My first experience in farming was selling produce. The man I worked for drove two loads of potatoes four miles and sold them for sixty cents per bushel. The day I had left home my mother had bought a bushel for $1.75. It was then that I first thought of a cooperative market where farmers could ship their produce and sell direct to the consumer and cut out the middle class."

He still has the ambition and proposes to carry it out "by establishing cooperative markets."

III

It will now be desirable to consider whether the ideals and professions of these students are upheld by their conduct in youth when they are given an opportunity to help others; also to determine, if possible, whether their social ambitions are sufficiently well established to influence their philosophy of life and their later conduct.

1. The following directions were given:

> Name all the different kinds of war work you did during the war, with little or no pay, at which you spent *two or more hours per week for two or more weeks.* Please be specific. If you received some pay, state amount per week.

Five blank lines were provided for their replies. In tabulating the results, *such items of work as brought more than $7.00 per week were entirely omitted.*

Of the total number answering the questionnaire, 77% reported war work for little or no pay. One kind of work was reported by 290, two kinds by 250, three kinds by 140. Only 64% of the boys reported work on the basis indicated by the question to 86% of the girls. Probably a larger proportion of the boys were engaged at regular remunerative work.

A careful study of replies shows that serious and, in some cases, exhaustive work was done. A very few items too trivial to deserve mention were omitted. Following is the distribution of replies:

Kinds of work	Total times mentioned	Times mentioned by boys	Times mentioned by girls
Red Cross work	797	77	720
Assisting in Liberty Loan and War Savings Stamps sales and in campaigns for money	263	166	97
Gardening	98	66	32
Work for Y. M. C. A., charities and other organizations	90	46	44
Farming	72	55	17
Made or sent articles to soldiers	39		39
Work for Draft Boards, food administration, etc	31	17	14
Helped entertain soldiers	18	2	16
Miscellaneous	50	32	18

As may be seen, a considerable number of boys did farming—none of them getting more than $7.00 per week. One boy worked 17 weeks for 12 hours a day at $3.75 per week. Several worked for no pay.

One girl sold Liberty Bonds amounting to $7,550; did stenographic work for Liberty Loan headquarters without pay; "collected" 5 hours a day for 10 days for the Salvation Army; collected for soldiers in a public library and made sweaters, socks and wristlets for soldiers.

A boy worked on a farm all summer for $6.50 per week; made "Red Cross tables" in a shop at school; sold War Savings Stamps and equipped a building with shelves and cupboards for the Red Cross.

Another boy sold Liberty Bonds and War Savings Stamps; helped wrap packages at the Red Cross, and had one pro-German arrested!

A girl made garments for European sufferers; solicited for Liberty Loan campaign; worked in Red Cross rooms and shops; made war posters and knitted.

One girl watched a band of sheep to release a man for harvesting. Another worked three weeks as a "farmerette," 8 hours a day for about 50 cents a day and board.

While the participation of an even large proportion of older high school students and while harder and more serious work than was observed among particular boys and girls might have been hoped for, yet one can not study the replies to this inquiry without realizing that a very large number revealed a high capacity for faithful, loyal service. Perhaps some of these young people performed the war work reported under rather strong social pressure. Certainly some men and women bought Liberty Bonds during the war under the pressure of their fellow citizens. There is no exact method of determining to what extent such influence affected these students. One can judge partially by one's own observations. Then there is this consideration: the kind of work done is the kind of work that is generally done with some enthusiasm if at all. A study of the replies tends to convince one that the work was carried on with real patriotic devotion. High school boys and girls appear to measure up to their ideals and professions when they become conscious of a great national need.

2. We may now well ask whether the war and the experiences of these boys and girls in the war work brought about permanent results so far as their attitude towards society is concerned. Did it develop the idea of life-long usefulness, of peace-time patriotism? Has war work tended to crystallize their ambitions to do good in the world? If not, have their altruistic aims sufficient inherent vitality to lead these young people into lives of usefulness? Or will they soon be devoting all their energies to the pursuit of money, fame and power for purposes primarily selfish?

They were asked whether they intended to get a general college education and then the following question:

> If you want a general college education, please state *definitely* why you do.

All but 11 of those who indicated that they intended to get a general college education answered this question. The replies have been grouped as follows:

Reasons for wanting college education	Total times given	Times given by boys	Times given by girls
1. To broaden the mind and attain greater culture	166	49	117
2. For general preparation and future success	125	68	57
3. To prepare with an individualistic motive for some vocation	87	46	41
4. To prepare for more useful service without reference to a particular vocation	36	11	25
5. To prepare with an altruistic motive for some vocation	25	7	18
6. To broaden mind and also do good in the world	4	1	3
7. Vague reasons	1	0	1
Totals	444	182	262

Those in the largest group, it is observed, intend to go to college for attaining broader culture. Says one boy: "A general education lends polish to one's manners and mind." A girl wants a general college education "so as to keep in touch," she says, "with my surroundings and be cultured and refined." Other similar reasons follow: "To be more learned." "It gives a man a broader insight and prestige." "I want to round out my mind on all sides." "So I may become cultured."

The 36 students whose replies are placed in Group 4 desire a college education to prepare themselves for more useful service. One girl wants to make herself "better fit to live in the world and do good." A boy replies, "I feel it will make me a better American citizen."

If we add to these 36 the 25 in Group 5 and the 4 in Group 6, we have 65. This is 15% of the total. Only this small proportion appears to be making their plans for college for other than individualistic ends.[3]

The war aroused the older boys and girls of our high schools and they appear to have gone to work with enthusiasm at tasks immediately before them. But this awakening does not seem to have changed their attitude toward society in any permanent way. In certain instances probably war-time social service stimulated a vague desire for permanent usefulness, but such aspirations did not become articulate. So far as the evidence available is concerned, the idea of service in peace-time was not developed. And, altho a majority of students appear to have had definite altruistic ambitions, most of them seem unable to relate these desires to college work or to the vocations with which they are familiar. The idea of going to college and choosing a vocation for the purpose of becoming socially useful—the mere idea of so doing seems never to have occurred to them.

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[3] Only 9 per cent of the boys responding in 1915–16 to a similar question indicate social motives in planning to attend college. See Moore: The High School Boy and Modern Social Problems, EDUCATIONAL REVIEW, October, 1917, p. 263.

IV

It will now be possible to review the results of our inquiry and to consider the main points revealed by the frank statements of these 975 students.

Not all high school students appear to have altruistic aims before their junior year, but a majority do. In many cases, the ambition is doubtless not very strong. The girl who "hoped to clean the poor dirty children" possibly did not lose any sleep over them. In many other cases, however, their ambitions can not be regarded lightly. "I have even gone so far," says one girl, "as to be willing to live just as simply as possible and give as much of my money as I could to charity organizations." This reply has a ring of earnestness not to be ignored. Nor can the plans of the 18-year-old boy who is ambitious to conquer poverty be treated lightly. He has not given up his ambition, he says, "nor will I until the last minute of my life." And when a high school girl will work in a factory for a week during her Christmas vacation because of her interest in the condition of women in industry, it is evident that some of these boys and girls have an interest in human welfare that is very real.

It was found furthermore that high school students entered during the war into multitudinous forms of patriotic service. The performance of the boy who worked 17 weeks, 12 hours a day for $3.75 per week, and of the 71 who did farming—all for $7.00 per week or less—gives some weight to such social ambitions as these students may have had.

It is true that the ambitions of many are naïve and that a large proportion (38% of the 578 students) are soon abandoned. It will be remembered, however, that only 4 per cent of students reached by this inquiry give the school as the source of their ambitions. The social aspirations of the others seem to have originated elsewhere. During the early years of high school, students have no regularly appointed opportunity for the systematic study of those conditions which they desire to remedy.[4] Is it any wonder then that their ideas are extremely naïve? And is it not surprizing that more of them do not give up their ambitions? A girl's social interest centers in a beggar. She is earnestly enough interested in his welfare to investigate the case. She finds that he is making a comfortable living and apparently does not want to work. The object of her interest thus disappears. The high school has not directed it towards the larger, more serious social problems of the day; so, she writes, "I have given up my idea." Social interest must have an objective. When its object is removed and a substitute is denied, it dies.

We found that 62 per cent of students reporting altruistic ambition say they still retain them. This would be encouraging if, during the junior and senior years, attention were given to the broadening social interests of boys and girls and to the subjects which deal with the social problems in which so many of them are naïvely interested. But here again the high school fails. It does not give the boy and girl sufficient background to enable them to recognize the need of any educational preparation for carrying out their ambitions. They do not know that the social studies might help them. Most of them do not even know what the words "sociology" and "economics" mean.[5] A majority of the students, it is true, have studied civics by the time they reach their senior year, but in many instances this course deals only with machinery of government. The problems for the solution of which the machinery exists are ignored. Courses in current events, now quite popular, are helpful, but too frequently they consist mostly in the exchange of ignorant opinion. A very few go on to college and continue for the most part the subjects in which they become interested in high school. In college some of these stumble into the social sciences. But a vast majority do not reach college. Thruout the high school course, no one has given them any information about the problems they are ambitious to help solve. Thus unenlightened they are graduated. They enter business and professional life and become voters unprepared to deal intelligently with the common social problems which all citizens inevitably face. The ambitions of some doubtless endure and as adults they seek to alleviate the condition of the poor by generous gifts of money and supplies. If they ever gain the modern point of view towards social problems, it is not thru any help from the high schools. Whether the social ambitions of the majority survive the neglect of the high school is doubtful.

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[4] The ignorance of high school boys is revealed by a previous similar study. See Moore: The High School Boy and Modern Social Problems, EDUCATIONAL REVIEW, October, 1917.

The failure of high school students to relate their altruistic aspirations to college work and to the problem of choosing a vocation seems at first almost incredible. They seem not to understand that a college education is largely a gift from society, that students pay only a small proportion of its cost and that a man or woman who uses his college education for individualistic ends is not even playing fair. Earnest and sincere in their professions tho they may be, only a small proportion plan to attend college with social purposes. The idea of getting a college education and choosing a vocation for the purpose of serving society intelligently seems never to have occurred to most of them.

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[5] Only 14% of 975 students were able to give definitions of sociology classed as good or fair, only 23% to give good or fair definitions of economics. One student said sociology is "the science that teaches sociability and to be pleasant," another said it was the "study of the mind." Economics is defined as "the study dealing with the good and bad uses of articles such as plants" and as "the study of light, heat, magnetism, electricity and other phenomena."

The reason for the failure of most high school students to relate their social ambitions to college and their life-work is not their inability to understand the social, economic and political problems of our modern complex civilization but to formulate a simple philosophy of life which will enable them to think clearly upon life purposes. Those who have been associated with high school students in the study of sociology recognize how wide is the range of intelligence in adolescence and how well developed is the capacity for comprehension when there is an opportunity to learn the facts and to study under systematic direction the problems in which so many of them are interested. The only explanation of this failure is that the high school has been slow to appreciate the possibilities in its students. They have not developed in students a desire to render definite patriotic service and when such desires have grown outside the influence of the school, the school has not even recognized them. As in the case of the boy who distributed influenza pamphlets, most students are led to have social ambitions by observation; others are stimulated by reading, by home influences and by the example of some acquaintance. Less than four per cent of the 578 boys and girls who report altruistic aims say they were influenced by the public schools. And most of these name some branch of Biology or English as the particular subject which inspired them with ideas of service. Less than one per cent name any one of the social studies as the cause of their desire to make the world a better place to live in. Boys and girls are entirely capable of understanding modern social and economic problems and of achieving a philosophy of life based on an intelligent development of social impulses. But all these fine aspirations of youth remain unrecognized by teachers and parents. They give place frequently to the petty interests of school life and to the more ignoble ambitions of commercialism. And society is not even conscious of its loss.

It is not assumed that it would be desirable for all boys and girls to become social reformers or specialists in any social problem. Our complex civilization demands, however, that boys and girls shall become more intelligent voters than are most citizens today. Unless they are trained to understand our social, economic and political problems they will not have the intelligence to employ specialists to deal with these problems for them. Furthermore, we must have more leaders in intelligent social reconstruction in our legislatures and in Congress, also in administrative positions in municipal, state and national governments. Our legislators today, by their failure to understand the problems of feeble-mindedness and to pass needed laws, permit dangerously feeble-minded persons to remain at large. We need more men and women enthused with the ideals of democracy. These ideals can not be imposed from above. They must come from within the individual and from within the group. The time to begin the development of this leadership and to implant enthusiasms for the ideals of our common life is during adolescence.

Sir Oliver Lodge, in an address September 17, 1919, commemorating the 100th anniversary of the death of James Watt, touched upon the subject of the atomic properties of matter.[6] The first utilization of these properties was in wireless telegraphy. If the atomic energy of an ounce of matter could be utilized, he asserted, it would be sufficient to raise the German ships sunk in Scapa Flow and pile them on the top of the Scottish mountains. He said, however, that he hoped the human race would not discover how to use this energy until it had brains and morality enough to use it properly, because if the discovery were made before that time and by the wrong people this planet would become unsafe.

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[6] From an Associated Press despatch in the *Washington Post*, September 18, 1919.

Only thru the study of such subjects as sociology, government, social ethics, economics, socialized history, and psychology can there be developed the intelligence and the morality which Sir Oliver Lodge says is essential to the future safety of the world. More physics and chemistry will not do it.

During the last days of the War, an officer of the United States Government invented a poison having seventy-two times the killing power of the most deadly gas previously used, and there had been manufactured a quantity sufficient to kill the entire German army.[7] This is only one of many inventions, achieved and in prospect, which will make the next war, if it comes, inconceivably horrible. Probably it is wise for us to have these inventions in reserve, but the need for them indicates intellectual and moral poverty. Modern civilization did not have the intelligence and the morality to prevent the most destructive war of history. If the world is to be saved from suicide we must achieve a more adequate understanding of our present complex social order. To direct the intellectual genius of our youth into the social sciences may at least help to prevent a cataclysm.

Men "solve the problems of material science in vain," says H. G. Wells, "until they have solved their social and political problems. * * * It is a plain and demonstrable thing today that the world could give ample food and ample leisure to every human being, if only by a world-wide teaching the spirit of unity could be made to prevail over the impulse to dissensions * * * men are now in a position to substitute aim for aimlessness; they have already all the knowledge and all the resources needed to escape from these cul-de-sacs of wrong doing and suffering and ugly futility into which they jostle one another.

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[7] Stockbridge: War Inventions That Came Too Late, *Harper's Monthly*, November, 1919, pp. 828–835.

But they do not do it because they have not been sufficiently educated."[8]

Let us look clearly and honestly at the social situation in the United States today at the close of the war. Lawlessness and dangerous radicalism threaten our established institutions. Strikes thruout the nation curtail production. Millions of our people live in poverty. A great plague (influenza) has swept over the country killing more of our citizens than were killed by the war. Our institutions for the feeble-minded are overflowing; many who should be confined in them are at large spreading crime and disease. Insanity is increasing. Government experts declare that a salary of $1500 to $2262 per year is necessary for a family of five to maintain health and physical efficiency; at the same time certain forces reduce wages to a point far below this standard. Children labor long hours in cotton mills, glass factories and coal mines. Two millions of children in our schools today will die later of tuberculosis if the present rate continues. Society today appears not to have the necessary intelligence to deal effectively with these problems. The wise conduct of a few men and women in public office encourages us to believe that human beings have the mental capacity, the sympathy and the will to successfully deal with them. But if our democracy is to survive we must develop a larger number of persons with understanding and social spirit. The best place to reach this larger group with the necessary education is within the secondary school.

In the present crisis, the high schools of the country have a remarkable opportunity. Their graduates will largely create the public opinion by which governments are controlled. The one and two-thirds million students in our high schools constitute probably the largest and most impressionable group in the land in which an intelligent social spirit may successfully be developed. If the two and one-half million pupils of the 7th and 8th grades are included (according to the junior and senior high school plan) this opportunity will be greatly increased.

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[8] H. G. Wells, *The Undying Fire*, Macmillan Co., 1919, p. 186.

It is during the high school years that the boy and girl become social beings. At this period, they have not become hardened by failure and by disappointed hopes; they have not become blasé. They develop vigorous imaginations; the ideas of risk and adventure appeal to them; they plan careers of high achievement. It is just at this time that many a boy and girl are ready to give themselves to a cause, to serve mankind, to sacrifice life itself for the sake of others.

High school teachers have hardly tapped the spiritual energies of youth. Their altruistic ambitions, naïve tho they may be, are infinitely precious. To a large degree, our ability to pass successfully thru the present crisis and bring about a day of peace and prosperity depends upon our utilization of these energies. Our destiny rests with the boys and girls in our high schools. We can not afford to ignore longer their interest in the welfare of their fellow men.

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. II

JUNIOR HIGH SCHOOL MATHEMATICS

The junior high school is an outgrowth of the demand for a bridge to span the chasm that existed between the grades with their very definite instruction, and the old form high school which threw the pupils at once wholly upon their own resources. With this new school has come the call for a mathematics that shall conform to its ideals. Such a mathematics leads the pupils to make discoveries and to begin thinking for themselves. Initiative and intelligent questioning are to be fostered at this time. To accomplish these results the old time rules for carrying on the work must be forever discarded and mathematical principles established inductively through experimentation. The pupils are also to be encouraged in applying the principles deduced to all of their school and outside activities, and thru this to look upon every question from the quantitative standpoint. Such a mathematics leads to generalizations, rationalizations, and useful applications of all fundamental objectives of junior high school mathematics.

THE MATHEMATICS COURSE

In accordance with the above general program there is a demand that the mathematics of the junior high school be not taught in the water-tight compartments of arithmetic, algebra, and geometry. Mathematically and psychologically this means providing the pupils with the very best mathematical instruments that they are capable of handling in each situation. This breaking down of the traditional divisions, arithmetic, algebra, and geometry which are replaced by a unified mathematics founded upon the psychological needs of the pupils is a decided step forward. After a thoro review of previous work the first year may be devoted to inductive geometry together with construction work in which the pupils learn to measure, to observe, to experiment, and to use their hands. The simple elements of literal numbers and equations may also be introduced during this year for use in formulas. Such a course for the 7th grade has been found much more within the pupils' range of understanding as well as much more appealing to their interests than the business work found in so many texts and courses of study. While the average business problem may be very tangible and concrete to the grown person, it is too often hazy and abstract to pupils of the 7th grade.

In the 8th grade the study of literal numbers is continued. The only requirements that need to be placed upon this work are that it develops gradually, is well graded, uses sensible apt symbols, and is shorn of all meaningless mysteries. In this connection the value of a clear, simple terminology can not be over-emphasized. Logarithms, for instance, can be made a most useful as well as interesting application of exponents. Replacing the terms characteristic and mantissa by the sensible meaningful terms whole number and decimal part has been found to remove much of the difficulty experienced by young people in the handling of logarithms. In Europe, and in the United States where it has been tried, the elements of literal numbers (algebra) have been found to be well within the compass of pupils in the 7th and 8th grades. Graphs, that most useful instrument for showing comparisons, should have a prominent place in the junior high school mathematical curriculum, and may well come in the 8th grade. There is scarcely a magazine today treating the vital questions that does not contain some graph. This gives graphs a general value to every one and not only to those who read technical journals of science and industry. Comparing numbers by pluralities and ratios should also have a place in the work of the 8th grade.

Some elements of business are, of course, taken up in the problems of the first two years. Matters of thrift and school enterprises are the chief sources of business material for these first two years. The main study of business procedure is taken in the 9th grade, however, in which the principles studied during the first two years are applied. Whether a pupil who has completed junior high school enters senior high school or the wage-earning class, this business mathematics will be found necessary to him. He will also gain much more from this study of business application in his more mature years than he would if it were taken earlier, or if taken piecemeal thruout the three years of the junior high school course.

There is always danger that an attempted fusion course may develop into merely a confusion course. The highly spiralized course in mathematics, a little dab of something of this to be repeated after little dabs of a few other things, has had its day in the United States. It has been thoroly tried and found decidedly wanting. Too much spiralization leads to loose, confused ideas on the part of the pupils, as the topics are not studied for a time sufficiently long to make lasting impression upon the student.

How are we then to give the pupils a lasting usable impression of the mathematical principles they study and at the same time bring out the connection between these various principles? It can be accomplished, first, by confining the instruction to any one part for a sufficiently long time to create the lasting impression, and then by arranging the subsequent work so that the principles studied will recur from time to time. Much of this can be accomplished thru the proper selection of problems. For instance, after the pupils have learned how many decimal places in a result will be significant, let numbers containing decimals arise thereafter in finding areas, in finding weights of substances from their specific gravity and volume, in finding prices, and so on. Such continual recurrences of principles in problems and in new principles will serve to keep all matters from being obliterated and at the same time it will connect the various mathematical principles in a natural way. The heterogeneous mixture so often met with in courses of fused mathematics will thus be avoided and the result will be a homogeneous mathematics which must be the goal of all mathematics teachers. In support of this plan it may be mentioned that it has stood the test of trial.

One instance of unification would be the teaching of common fractions, decimals, and per cents all as forms of fractions in the 7th grade. This treatment has been found one of the greatest aids in clearing up the mysteries of percentage. Another is that of later in the 8th grade teaching the literal and the numerical fractions together.

MATHEMATICS FOR SERVICE

Let mathematics for service be the slogan for the junior high school. This is in accordance with the Perry movement which for many years has exerted such an excellent influence over the mathematics teaching in the United States.

An element of this slogan should be the application of mathematics in a real business way. A business man told the writer recently that the young people who enter the employ of his company must be instructed in such a simple matter as calling a set of numbers for another to write down. Invariably they call 3456 "three thousand, four hundred, fifty-six" in the place of "thirty-four, fifty-six." Surely such criticisms of our schools ought not to be possible. Unfortunately, they arise only too frequently. For construction work in the first year are recommended protractors, T-squares, triangles, compasses, and so on, wherever each is found the most serviceable. Later the work is made more real by the use of tables of various kinds; squares, square roots, interest, logarithms, and others. A real mathematics for service means the use of methods of business and industry as long as these are superior to those previously found in our texts. May we repeat, that it must mean at all times the encouragement of pupils to consider all of the various questions that arise in their daily activities from the quantitative standpoint by the application of the simplest usable mathematics at their command.

Directors of business and of industry demand a greater facility in the handling of integers, common fractions, and decimals than is possessed by the average young person in their employ. One of the functions of the mathematics teaching of the junior high school must surely be to meet this requirement. Whether the pupil at the end of the 9th grade goes to senior high school or takes his place as a wage earner, he should be well grounded in these fundamentals. One of the aids to accomplish this is thru reviews at the beginning of the 7th grade, as has already been mentioned. It has also been found an excellent practise to begin each of the remaining two years with a short review of fundamentals. In addition to this, problems must be used thruout which give ample practise in these fundamentals. No fast lines can be laid down as to the amount of this work that is necessary. That will depend upon the conditions of the pupils entering the junior high school and upon their aptitudes. It must, however, be sufficient to insure a high degree of accuracy together with a reasonable speed in computations.

In order to make the computation work most effective it will be necessary to create interest by varying it from that done in the previous grades. This may be accomplished by taking advantage of the fact that excellent reviews can be attained as by-products of other advanced work. Only a very few instances can here be mentioned. Approximations, which are so grossly neglected in our schools, will provide excellent material thru their verification by actual computations. A study of degrees of accuracy that are possible under given number conditions has a high practical value in itself as well as giving excellent exercises in judgment. Accompanying this study come abbreviated operations with decimals, especially in multiplication and division. All of these computations naturally give practise in operations with decimals. Other opportunities lie in many of the general short cuts, in processes used by men of business and industry, in checks upon operations, in number contests, and so on.

PRESENT DAY DEMANDS

The need of economy of time in education has of late become a vital question in the United States. Some of the results accomplished under pressure during the late war have led to an investigation of the use of the pupils' time in school. It behooves us to give a thoughtful consideration of this matter in the teaching of mathematics in the junior high school. Time need not be lost by requiring the pupils to attempt work which is beyond their abilities or to do work which they may clearly find too simple. As an illustration attention may be drawn to the matter of reviews previously mentioned. The pupils entering junior high school need a very thoro review in some school systems, while in other school systems a very brief review will suffice. Time is also lost by over-spiralization, as has already been touched upon, whenever the work is changed so rapidly that no lasting impression is made, it must be largely repeated later. The practise of giving work in the junior high school which is so incomplete that it must be taken all over again later in the senior high school by those pupils who continue their mathematics further in the senior high school is a decided waste of time. For instance, the inductive geometry and construction work previously suggested if properly given, can form the basis of a senior high school course in demonstrative geometry that includes both plane and solid geometry in one year, a saving of half a year. The elements of literal numbers suggested for the first and second years should be so given that they serve as a basis for third semester algebra in the senior high school. If one and one-half years of geometry and one year of algebra are necessary to complete this work in the senior high school after pupils have finished the mathematics work in the junior high school we are marking time in the junior high school, a thing we have no right to do. Students who have completed a satisfactory junior high school course in mathematics should be able during their senior high school to complete plane and solid geometry in one year, physics in one year, and algebra III together with trigonometry or college algebra the final year.

Waste of time often indulged in by teachers thru the poor management of the classroom work does not properly fall within our province here. Hence no time can be taken for its discussion, vital tho the matter may be.

Men and women in every walk of life are today demanding the Americanization of our schools. In no part of the school system will this play a more vital part than in the junior high school where the pupils learn to find themselves and to find their part in the community. The mathematics here must be Americanized; it must be a mathematics for service. It should be a mathematics readily applicable to various situations so that pupils will acquire the habit of looking at their various activities from the quantitative standpoint. Care must be exercised not to draw upon any one source too heavily for material to the exclusion of other sources. For instance, it would be easy to wander from the pupils' activities into a great multiplicity of national issues with their large, meaningless numbers that provide little or no mathematical growth.

As truly Americanized schools are democratic, care must be taken not to create situations which will embarrass pupils coming from homes of less affluence than some of their fellow pupils. For instance, it is an excellent plan to encourage pupils to keep accurate accounts of their pocket money and their expenditures, but it would not be fair to require them to bring these accounts to school for comparisons. Neither is it fair to ask them to bring to school portions of the family budget for comparisons. It may be added that such undemocratic action will be as harmful to the pupils from the more affluent homes as to those from the less affluent homes, altho the harm may appear in a different way.

The Americanization of our schools means equal opportunity to each boy and girl; a general education that does not in any way smack of caste. One boy is not to be educated as a banker, another as a farmer, another as a mechanic, and so on, while in the junior high school. In a trade school the students are composed of mature men and women who thru neglect or lack of opportunities have missed an education. These need help in the particular work in which they are engaged. Here specialized instruction is the only form of instruction that can well be given. This is far from the case with our public schools. Here the pupils are not ready to specialize but must be given an education for service to every one in whatever activity he may later be engaged. The mathematics of the junior high school must hence be taught for application in all lines of endeavor and not for application in particular lines. Even tho it were best to make this division in the mathematics treatment, it will be impossible to do so except in those schools where they are fortunate enough to have a prophet who can divide the pupils upon entering junior high school into groups according to the various lines of endeavor they will pursue after leaving school. Most people find their special abilities rather late in life. Surely these abilities can not be known to the boy or girl at the time of entering junior high school. The province of the junior high school is rather to be that of starting the pupils upon the road towards finding themselves than upon the road leading to some particular endeavor. Hence the need of a general course in usable mathematics for the pupils of the junior high school.

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III

NEGLECTED OPPORTUNITIES IN ELEMENTARY SCHOOLS

Among the various phases of the impending reorganization of our school courses there is probably none which has been formulated so much, in so many ways and phrases, as that dealing with industrial or vocational education. The necessity for this reorganization on the part of the schools need not be discust in detail; our whole social organization recognizes the validity of this necessity and the educator can no longer be deaf to its voice. Many school men are thus centering their efforts on the matter of what social progress the schools may be expected to participate in and how our curriculums may be made to conform to the present-day demands along the line stated. One of the vital questions is: Do the school systems render the most effective service to the masses that they are capable of; do they make proper use of their existing complex organization to the fullest extent in meeting the new needs or must they perforce be reorganized *in toto?*

A very little retrospection will help us at this time. Like ancestor worship we are holding sacred all things educational of the past. With each new swing of the pendulum we have added new subjects to our list; each reform movement brought with it its new recruits of studies—the marvel is their longevity in their present guise. None has been buried, and we are contemplating the addition of others.

But is it necessary to make more complex our curriculums already overburdened? But you say if we are to be progressive, if we are to meet the new needs, what else is there for us to do? The idea that the elementary school is to provide an education for all the children, in all their various needs, has given rise to the assumption that the schools must provide all the activities and subjects asked for by all the children and thus add to the already evident chaos. I hold that such an assumption is unwarranted, and we should not entertain this idea if we are to retain our educational sanity. Rather lies our salvation in other directions.

But do not misunderstand. We all fully appreciate that our curriculums are in a state of transition, and we no longer feel that they are existing solely for those preparing for the professions, for those who intend to go on with their educational march. I appreciate that we are entering upon a new era where the demands of a universal education must receive recognition. I feel that we must recognize the claim of industrial and social progress and provide for these needs as well, and thus furnish the child who is to enter the industrial world early with his proper share of his educational inheritance. I recognize that this entails some kind of change in our school systems and methods of teaching.

We have all heard it said that we are apt to overdo; that our school expenses are soaring skyward; that our expenses are out of all proportion to the service rendered and that a recognition of the claims made will burden our school system to the extent that the proverbial last straw will soon be reached. Before we entertain such a notion let us review for a moment what Dr. Kerchensteiner has said about a social or a vocational education. In brief, he states that the purpose of such an education

> " * * * * is to insure personal efficiency and enable a pupil to take that part in society that his capabilities warrant; to become a useful citizen."

We hear on all sides the threadbare statement that the schools are educating for citizenship, and we pass it off at that. But if we endow such a purpose with the words of the above author, we get a new inspiration. Let me quote again:

> "A useful citizen is one who contributes by his work, directly or indirectly, to the attainments by the state of its goal, as a legal and cultural community. The first task of the school is promotion, as far as may be, of

the skill as well as the joy in the work of the pupil. The second task is the early accustoming of the pupil to placing his joy and skill in work in the service of his companions and fellow men, as well as his own. The third task is the connecting of the built-up-tradiness for service, consideration and ethical devotion, with an insight into the purpose of the State, so far as such an insight can be developed in the pupils, considering their position and degree of maturity."

This means complete socialization, development in its fullest extent. If the mind is well trained, the hand skilled and heart right there seems to be no limit to the social service the individual is capable of rendering.

We may be accused that this is idealism, another theory. I grant this and admit that idealism is involved. But if it were not for this same idealism what inspiration have we to fall back upon? I pity the individual who is devoid of it. While we may not be able to bring to pass all that is stated above, yet we are in a position to do much more than we have done. I do not believe that we have utilized all of our educational resources to the fullest extent, nor our personal ones either; we have not fully socialized the content of our school subjects nor utilized proper methods to bring this about.

As all our great works in music have a *leit motif* so should our great works in education have their *leit motif*. And one of these I should designate as a socializing motif. Not a motif which loudly asserts itself by its blatant trumpet call at all stages, but one which injects itself subconsciously with its perfect harmony, to be accentuated in various phrases and measures, yet in perfect keeping with the spirit of the masterpiece. This involves a rearrangement of our courses of study and new methods as well as the infusion of a new spirit into our work so that the pupils themselves will appreciate the socializing aspect and bearing of this spirit; that they will recognize its value as bearing upon the future content of their lives. I have heard it said that the social or, for that matter, the vocational content at an early stage burdens children with responsibilities which in the very nature of things should be deferred as long as possible; that vocationalization of early education works for harm in that it injects the elements of materialism and sordidness at a stage when idealism should be foremost. Does this meet the facts? Why do children leave school early in life? Because they know that the school has not met their needs, has not been able to socialize its content. Children want to know things, they want to get into life and participate in the work of the world, they want to work—not so often need it. I do not mean physical work either. How much better it would be if we could hold them because they want to work. I question whether there are many boys and girls who have not a pretty good notion of what they would like to do, even at an early stage of the game, and they can recognize social content as well as you or I. If this is so, why not give them that which they crave for and need?

In this connection there is another phase of our educational symphony which is as important as our great *leit motif*, that is the ideal of social service, a motif second only in phraseology. So far we have accentuated but little the altruistic phases of education. We have built up a system which is as care-free, as selfish, as possible, from the standpoint of the child—that we should ask, nay demand, a return for service rendered, that the state has a right to expect it, has never been made much of a point and, I fear, has been sadly neglected. The war has brought this phase of the matter to the fore as no other cause could have and the time is ripe that we instil in the minds of our youth the idea that participation in the benefits of our public institutions of necessity entails on their part a social service, commensurate in a measure with such benefits—that the state expects it and that such service to our fellows is a part of our life's work. Is it not true that satisfaction in life, happiness and all are directly measurable in terms of the satisfaction derived from the feeling that one has done something worth while in this world, that he has contributed something to the welfare and progress of society and has been of real service to his fellows? Children are very susceptible to this argument if the matter is put up to them thru the right kind of training. They certainly react in the measure that this vital social fact is brought before them.

If we concede the above statements, how will we go about it to reconcile our work with them? I believe we can do much without revising in any great measure our courses of study—by changing the attitude of the teacher who will recognize the claims, by better-prepared teachers with a broader outlook and more teaching spirit, a spirit which is progressive, which recognizes our new needs and is willing to cooperate, a spirit which is not afraid to learn in the new order of things.

I am not arraigning our teaching force, goodness knows they are an unselfish lot, giving service where angels fear to tread and devoted to the cause to a fault. What I am trying to convey is that we have not seized upon all our resources and opportunities to bring about the desirable results set forth, that we have potentialities for doing that very thing and that training for the teaching profession should bring about the recognition of such potentialities. But let me be specific.

Possibly the various forms of handwork which we have in our schools lend themselves most readily to the thought I have in mind, and I will use them freely as examples. We have primary handwork, intermediate handwork, manual training, domestic science and art, but I believe they are not serving us to the extent that they should, that we have not utilized them as means for attaining serviceable, social ends. Under the above main headings we have varied activities such as paper and cardboard work, weaving and work in textiles, raphia work, clay modeling, woodwork, cooking, sewing, printing, etc. They too often serve as ends in themselves, not as means to an end which possesses real social significance in the broader sense. Can these not be utilized more fully in the desirable direction?

In our work in paper and cardboard there are opportunities to drive home vocational and social facts, facts of an intensely interesting character, such as: paper making, wood pulp, sulphite, rag and wood papers, linen ledgers, bonds, news, water marks, plain and laid flats, colored flats, covers, plate papers, cardboards, jute and rope manila, cloth and binder's boards, bristols, enameled and ply boards, weighted and calendered papers. Folio, demy, cap, etc., sizes. Why is writing paper cut certain sizes? What is meant by quarto, duo decimo? Why is most of our examination paper cut 8$^1/_2$" × 11"? How is paper made and tested? Why is it that paper has a grain? How is hand-made paper made? These are all facts which can be demonstrated to fifth-grade children. You can test paper—they can. You can show dozens of kinds of papers by means of samples obtained most anywhere and at all times. Opportunities for arithmetic in cutting and laying out paper for book work are unlimited and represent actualities. Why has paper risen so in price; is wood pulp imported free; what does it cost a newspaper for print paper; are you getting real value when buying paper? These are some of the hundreds of questions which are open for discussion in this one subject alone.

How about the work in weaving and sewing and textiles? Do your boys and girls know how ordinary cloth is made? How cotton and linen goods are woven? Do they know what a Jacquard machine is? Do they know that the warp and woof of their little looms are relatively the same as those of the finest linen and silk goods? Do they know that an endless variety of textures may be produced by combinations of over- and underweaving? Have they tried this on their little looms? Can they recognize woolens, cottons and linens and test them? Do they know that the strength of the goods is in a great measure determined by the strength of the warp? Have your children ever had the opportunity to dissect various weaves in the schoolroom, analyze them and reproduce them on their looms? Do they know how moirés and changeable silks are produced? How printed goods are made? Why some ginghams are more expensive than others? How the various raw materials are converted into the thread used on the looms? Have they learned all about the silk worm industry? What the difference is between Brussels, Wiltons and ingrain carpets? How oriental rugs are woven and the influence of the rug industry on the peoples of the East? Why are orientals so expensive and why can we not reproduce them?

Are your girls using a sewing machine or do they have to wait until they get into the high school before they are officially made acquainted with them? I will wager they use one at home—why not in school? Boys do not take kindly to cooking or sewing as a rule. Have you tried camp cooking or emergency sewing? They take to these. Have your boys made a real loom large enough for a good-sized rag rug? Maybe you have neglected a splendid opportunity for socializing content.

Have you clay modeling in your school? You make sculptures in clay, tiles and plaques, candlesticks and bowls—you are instiling first principles of art, and that is good and well. But do your children know how bricks are made, how the various kinds are produced? What is the difference between common and pressed or wire-cut brick? Why the old brick yard is a thing of the past? How bricks were made of old and why we now make bricks without straw? The history of the potter's craft and the making of bricks have within them the elements of historical pathos. Have your boys made a simple potter's wheel and have you made real pottery? What distinguishes good from poor ware and where are the finer wares made? Why can we not make them here in our country? What is Satsuma, Dresden and Haviland ware? What is there about Japanese pottery that excels? Shall I continue?

How about basketry and raphia work? Dare I ask what reed is or cane, or splints? How are baskets made commercially? Not a far step to the Indian, Alaskan, Chilean, Oriental or African basket. Their manufacture is tied up with the history of the nations and reflects the traits of the races. Possibly we could drag in history and geography.

Let us look at manual training in the light of the foregoing. I believe we have sinned more under the guise of manual training than years of penitence will make up for—it is not even training of the mind thru the hand. Ye shades of Otto Salomon! Frankly it is nearly always busy work so far as real ends are concerned and the use of the subject towards real social ends is sadly neglected. The benefits are circumspectional not directed, and in but few cases is a real end sought after.

But what exceptional opportunities are thus lost! Here is our opportunity for doing real directed work having a tremendous socializing value, the desired characteristics of vocationalism and one which may be utilized to that end freely and with the hearty cooperation of the pupils. Why have we not seized the opportunity sooner? Possibly because the call has not been heard until of late and possibly because the work was still steeped in its traditional aspects and possibly also because its teachers did not fully realize its scope on the side of practicality and real social significance. We know the average teacher considers himself slightly above the vocational aspects of the work and likes to lean more on the side of education, pedagogical values, psychological significance, and other stock stuff, while the man of work looks down with supreme contempt upon the work done in the school. Leaving the practical man out of the discussion, why should the manual training teacher be impractical, teach for teaching's sake and seek no particular end which will stand the test of society at large? I do not advocate a commercial standard of production for the school shops, but I do believe that there should be laid the foundation for subsequent work of a more finished character. I would consider the training preeminently socializing, pre-vocational. There are no difficulties in the way except perhaps the teacher. The vocational atmosphere, that illusive and intangible thing which makes for efficiency, can only be obtained by one who has gone thru the mill and I am sure there are plenty of opportunities for this.

Do we want to turn our boys into carpenters and blacksmiths or mill hands? Of course not necessarily unless it is desired by the pupil. But the value lies deeper. In spite of the theories of certain people I believe in the physical and psychological transference of activities; the skill, habits of industry, orderliness and everything entailed in such directed activities have set up habit tracts which are sure to serve their stead in usefulness, not only along the specific lines but in other directions as well, while the shop atmosphere is only a forerunner of that condition which nine-tenths of the pupils are fore-ordained to encounter in life's work. The moral side is as valuable. What can not be done under skilful guidance to set up standards of honesty, self-reliance and independence of thought and action; how well adapted to clear and well-defined mental processes and mechanical insight, if I might use the latter term. Call it what you will, this work does engender what I might term, with apologies to Dr. Bagley, social idealism. We surely all agree that this is desirable. Can it be done? I am sure of it.

Is it necessary for me to point out that the same ideal may be attained thru subjects other than those mentioned? Reading, spelling, writing, arithmetic, all may be treated in the same way by providing real contact with actualities. We need not teach spelling by going to the dictionary, but by writing out the words—we do not spell orally except in the schoolroom, but we spell by writing the words. Nor should the choice be left to the spelling book, but it should be left to the teacher to vitalize her work in other subjects. The child is interested in that which touches upon his own life and experiences and not in concatenations or the irremediable. The subject of arithmetic is too obviously social and yet what abstractions do we find and what sins are committed under the name of mathematics. Language should be vital and like all other subjects should touch on the child's own experiences and interests. We will get a far better essay on why I did not prepare my lesson yesterday than a composition on the oyster. The pupils should write to a great extent on their own problems and not on some abstruse subject. Geography, happily, seem to have been really vitalized early and completely reorganized. And so we might mention many other cases. The examples cited more or less in detail are sufficient to show the method which may be pursued in nearly all cases. The desirability can not be questioned and the method is rather obvious. Wherein lies the problem?

We are thus confronted with the real problem, the teacher, for after all it is due to him that success will follow or disaster impend. What would I have of the teachers? Are they not overburdened enough with subjects galore? Would you have them spend additional years in preparation? But do we call for more subjects? Does socializing of content call for more years of preparation?

I do not believe either is essential or necessary, tho it may be desirable. But I feel that teachers have not utilized their fund of knowledge or have they been trained to make use of it to the best advantage. I am not advocating specialists except for certain well-established subjects. The regular teachers are fully able to meet the situation under proper conditions. How about the paper work, does that not take special and expert knowledge? You need not be an expert to teach all the things I have mentioned under that topic, simply go after the information. Have you ever visited a paper house and talked with the expert? Have you ever visited a warehouse and talked with the store-keeper? You will be cheerfully received and information given for you in great quantities. Have you ever read a book on paper making or really tried to get first-hand information on this and other topics? There must be numerous samples of textiles, all kinds of weaves and cloths—why not make good use of them? There are plenty of good books on textiles and the buyers from the various dry goods houses are always willing to dispense information. So with nearly all subjects taught. I grant you it takes perseverance, initiative, ingenuity and gumption to do all these things, but we must all of us have these qualities if we are to successfully cope with the numerous situations which arise in the teaching profession. Of course it is so easy to use predigested and pre-organized teaching material—it is all there for us to get right off the educational platter. What we must do is to seek out other material and cook a different educational meal, a meal in which content is spiced with interest and lavishly garnished with the green of socialization. That meal will be revitalizing and will endow the pupils with new life and vigor.

I am not advocating spending several additional years in study nor do I advocate a specialist's view-point—that would be fatal where the interests are so adverse, but I do advocate a broader training, a training which would give analytical insight into subject matter and provide the power to seize upon the vital elements contained therein. I would advocate a training which not only includes the essentials but one which also includes an appreciation of art, literature and music, one which has within it the elements of successfully meeting new needs as they arise, one which makes for optimism and enthusiasm and which lays the foundation for progress and inspires to great efforts. May our teachers become social workers.

H. W. SCHMIDT

MADISON, WIS.

IV

THE NEW SYNTHESIS

AN APPROACH THRU THE STUDY OF ENGLISH

It might be well at the outset to explain what is meant by synthetic choice of subject matter. But such an explanation must inevitably proceed from a survey of the current practise of placing before the student models of good composition that seeing, he may put into effect the methods used by good writers and hope for like results. The value of such a method need not for the moment concern us, as we are interested primarily in the subject matter of these models and the motives which prompt its selection and arrangement. As might be expected, the earliest type of such books of selections was developed upon the principle of division into the four forms of discourse: exposition, argument, description, narration. This plan has obvious advantages from the teacher's standpoint in spite of the overlapping of the divisions in actual practise. The emphasis in such selections was frankly upon form and structure; the stimulation of the student by means of interesting subject matter was clearly secondary, or, as indicated by some of the selections, wholly absent from the mind of the compiler.

Later came those books which aimed, by means of subject matter in the form of essays, to stimulate the mind of the student and furnish him with a stock of ideas. These ideas were all good in themselves, but set down without much thought of arrangement. The subjects dealt mostly with science and literature, ranging in difficulty from the simple scientific definition or biographical sketch to such essays as Arnold's *Sweetness and light* and Spencer's *Rhythm of motion*. Considerations of structure and form which determined exclusively the plan of the first groups of selections, were, for the most part, blithely swept aside. The business of analysis of these models was left altogether to the classroom.

Still a third class of books of models may be distinguished; books with a specially defined purpose beside that of furnishing models of form, or ideas, or both. This class might well be divided into two sub-classes: essays which deal with separate forms of composition like exposition, argument, or narrative; and those which deal with a particular group interest, and which, by an appeal to that interest, aim to focus the attention of the student more effectively upon the business of writing English composition. I associate in this second class those recent collections especially designed for engineering students and agricultural students, and those on the issues and questions of the war and reconstruction.

In those books which deal with a single type of composition, we have a return to the emphasis on form, the selections resolving themselves into examples of the different modes of exposition, narrative, etc. No great pains is taken in the choice of subject matter to present a comprehensive range of material from the ideas' side. As to the second group: obviously those books which appeal to the interest of college men and women as a group, such as *College life* and *College and the future*, do so on the theory that the college organization represents in miniature the world of actual affairs, at least so far as certain social and ethical interests are concerned. But that the academic and general point of view has failed to satisfy the varied study interests in our modern colleges and universities is reflected in the appearance with increasing frequency, of a new grouping; *e. g.*, *English and engineering*, *Essays for engineering students*, and publications especially designed for agricultural students. Consideration of these publications brings before us a new issue.

Selection of subject matter which was originally determined by form exclusively, then by content exclusively, has come to be determined by content conditioned upon the special interest of a group, broadly representative in the case of the college, narrowly restricted in the case of these latter publications. The underlying theory seems to be that in order to be effective, such selections must be adapted more and more closely to the specific vocational interest of the student. As the author of one of these collections says in his preface: "They (books of selected essays) have been, without exception, of a general nature and not specifically adapted to students in technical courses. The essays (of his own book) have been grouped so as to indicate the large problems which the agriculturist as a professional man—in common with other men—must necessarily confront and study."

In contrast with the various methods above described, the synthetic principle as applied to choice of subject matter, attempts to acquaint the student, in some sort of related order, with the principal divisions of knowledge as they fall under the heads of science, art and philosophy. I mean literally that a group of selections chosen upon this principle should represent pure science in the broad meaning of that term, including discussions centering about physics, chemistry, mathematics, and the biological and physical sciences. Social science should be represented at least by education, economics, sociology, history, and political science. Art should have a place, balancing as well as may be science; and should be represented in its concrete forms by architecture, music, painting and drawing, literature. Philosophy, introducing problems of science or of art which have been raised into the sphere of philosophical discussion, should have its place. Here, too, should be included those ethical discussions of manners and morals which are so important in shaping student ideals. Certainly there may be other subjects than those I have mentioned which might be included, and it would be pedantic to insist that some I have included might not be left out. The essential notion—aside from the detail of choosing particular subjects—is that the total effect shall be to give the student a clear notion of the whole extent of the field of knowledge; and, by establishing some coherent relation between the different subjects, suggest to him the idea of the unity of knowledge. As a practical means of accomplishing this second object, no better way can be found than to require the student to relate each subject in turn to his own major vocational interest.

This idea as applied to education is not new. Newman emphasizes this plan of study thruout *The idea of a university*. It is the essence of Herbert Spencer's philosophy; it is reiterated by Huxley in his essay *On science and art in relation to education* and elsewhere. The same view is presented in the inaugural address of President Meiklejohn, of Amherst. But the adaptation of the idea to the teaching of English composition is, so far as the writer has been able to observe, a novel one. That there is a tendency in this direction is evident in one or two books of selections.[1]

Grouping according to the synthetic principle need not be complicated with a redivision according to forms of discourse; it should preferably deal with a single form of discourse such as exposition. Selection according to this principle would not cater to any special or group interest since it would favor equally all groups. Such a book of selections would have not only the advantage of placing before the student good models for study and analysis; it would, by opening up the whole field of knowledge to his view, have a positive educational value of the utmost significance for the student in college, university, and technical school today.

As has been pointed out with tiresome iteration by writers on educational topics, the "influence more profoundly modifying our conceptions of liberal education than any other, has been the advent of modern physical science." Under the successive encroachments of science in our school and college curriculums, the classics, and with them must be included philosophy, have constantly given ground;

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[1] Roe and Elliott: *English prose*, Longmans. Scott and Zeitlin: *Essays for college English*, Macmillan Co.

with the result that the burden of keeping education liberal and humane has fallen largely upon the modern languages, and especially upon the mother tongue. That this was destined to take place was early pointed out by Professor William P. Atkinson, professor of English at the Massachusetts Institute of Technology, in a paper published in the Popular Science Monthly in November, 1873.[2] To quote briefly from this paper:

> "I arrive at the conclusion that we are presently to have, as a substitute for the exclusive or almost exclusive use of classical languages and literatures, as the main disciplinary element in liberal education, a systematic study of the English language and a recognition of its literature as primary, not secondary."

This same thought finds an echo in the preface of two later writers:[3]

> "Thus English composition, which in many courses in our larger institution is now almost the only non-special study, can be made a direct means of liberalization in the meaning and art of life, as well as an instrument for correct and effective writing."

Professor Paul Shorey, of the University of Chicago, has repeatedly pointed out the shifts in emphasis which have resulted from the substitution of science for the classics, but nowhere more powerfully than in *The assault on humanism.*[4] This materialistic spirit in education, which gained increasing impetus in the second half of the nineteenth century, has seriously altered standards in most of the colleges of the country. President Meiklejohn, in his inaugural address delivered in 1912, presents an historical view of the issue in a striking passage which I quote at length:

> "But with the invention of methods of scientific investigation and discovery there came pouring into the mind of Europe great masses of intellectual material, astronomy, physics, chemistry. This content it could not for a time understand, could not relate to what it already knew. The old boundary lines did not enclose the new fields, the old explanations and interpretations would not fit the new facts. Knowledge had not grown, it had simply been enlarged, and the two masses of content, the old and the new, stood facing each other with no common ground of understanding. Here was the intel-

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[2] Reprinted in *English and engineering,* Aydelotte, McGraw-Hill.

[3] Roe and Elliott: *English prose.*

[4] Atlantic Monthly, December, 1917.

lectual task of the great leaders of the early modern thought of Europe: to reestablish the unity of knowledge, to discover the relationships between these apparently hostile bodies of judgments, to know the world again, but with all the added richness of the new insights and the new information. This was the work of Leibnitz and Spinoza, of Kant and Hegel, and those who labored with them. And in a very considerable measure the task had been accomplished, order had been restored. But again with the inrush of the newer discoveries, first in the field of biology and then later in the world of human relationships, the difficulties have returned multiplied a thousand fold. Every day sees a new field of facts opened up, a new method of investigation invented, a new department of knowledge established. And in the rush of it all these new sciences come merely as additions, not to be understood but simply numbered, not to be interpreted but simply listed in the great collection of separate fields of knowledge * * * But at the same time these separate groups of judgment are left standing side by side with no intelligible connections, no establishment of relationships, no interpretation in the sense in which we insist upon it with each of the fields taken by itself.

"If I say that our knowledge is at present a collection of scattered observations about the world rather than an understanding of it, fairness compels the admission that the failure is due to the inherent difficulties of the situation and to the novelty of the problems presented. If I cry out against the agnosticism of our people, it is not as one who has escaped from it, nor as one who would point the way back to the older synthesis, but simply as one who believes that the time has come for a reconstruction, for a new synthesis.'

Since this was written a great world war has been fought,' bringing us every day still new facts, new methods of investigation, new departments of knowledge established. The attempt at a relating of these facts in some order which the student can comprehend is no less imperative now than at any former time. That this synthesizing of knowledge is of primary importance in any effective scheme of education is subscribed to by no less an authority than Cardinal Newman:[5]

> "There is no enlargement unless there be a comparison of ideas one with another, as they come before the mind, and a systematizing of them * * And therefore a truly great intellect, and recognized to be such by the common opinion of mankind, * * * is one which takes a connected view of old and new, past and present, far and near, and which has an insight into the influence of all these one on another without which there is no whole and no center. It possesses the knowledge, not only of things, but also of their mutual and true relations; knowledge, considered not merely as acquirement, but as philosophy."

With few exceptions, editors of books of selections give no hint that they have any clear notion of this new obliga-

[5] *Idea of a university*, Discourse VI Section 5.

tion which has fallen upon the English language of supplying the liberal element in education. In fact, it seems fair to draw the conclusion that teachers of English composition have, for the most part, fallen into one of two errors: either they have kept their instruction exclusively within the field of pure literature, thus failing to give the subject vitality for those students whose interests are with other subjects; or, in their attempts to make this vital connection with related subjects, they have become victims of the spirit of the age, and by too strict limitation, by subordinating the humane and spiritual elements of the subject to the uses of material pursuits, have not only neutralized it as a liberalizing influence in the educational program, but have seriously depreciated its value as a direct means of that higher intellectual training of which Newman speaks.

The teacher at this point may well come to his own defense to ask whether it is his proper business to teach English composition, or to take, like Bacon, "all knowledge for his province." There are evident disadvantages from the pedigogical standpoint for an English teacher who has been trained in the school of Chaucer, Spencer, Shakespeare, and Milton; who has been schooled in the romantic atmosphere of nineteenth century literature by men who had come to depreciate the scientific spirit of the eighteenth—disadvantages in plenty for grasping the point of view of the young man of the twentieth whose mind is under the magic spell of modern science.

That such a presentation of the subject in its related aspects may be difficult seems to furnish its own moral. Narrowness of view, which the teacher of a liberal subject is most prone to declaim against, is nowhere so out of place as when applied to the teaching of a liberal subject. The study of literature or composition divorced from life as it manifests itself in the pursuits of science and of art, is just as narrow and more contemptible than chemistry or physics studied after the same fashion. This insistence upon the absolute rather than the relative importance of English for the average student has done much to create a dislike for English study, with consequent weakening of discipline in the course in an attempt to overcome this dislike.

Certainly from the point of view of the specialist, much of the comment upon related subjects in the field of science and art will be superficial; it need not be inaccurate. We may say with Arnold:[6] "The great results of the scientific investigation of nature we are agreed upon knowing, but how much of our study are we bound to give to the processes by which these results are reached? The results have their visible bearing on human life." The question is whether the teacher recognizes the primary obligation of his subject to counteract the narrowness of specialization; to shift the emphasis from fact-gathering to fact-comparing; to get before the student's mind the fact that education means not the accumulation of knowledge, but the development of mental power. And furthermore, thru the study of composition as an art in comparison with the other arts, the teacher should be ready to recognize the esthetic and spiritual values; to confess the fact, that what we aim to turn out from our institutions of learning are not merely engineers, agriculturists, home science experts, and teachers of this and that, but men and women.

Finally, there is involved in our notion of synthetic choice and arrangement of material, the teaching of composition not only from the side of structure and form, but the teaching of it as an art of expression in association with the other arts. Our educational program seems at once saturated with the spirit of materialism and intellectualism. In fact we may find ourselves in very good company if we say that the business of college and university education is alone the training of the intellect. But there are signs and wonders appearing everywhere today portending that the great problems of our human relations are to be settled, not by science, but by a more complete knowledge of and sympathy with human nature.

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[6] *Literature and science.*

It is the function of art to discipline the emotions, to train the taste, to awaken a sense of beauty, to provide a release for the individual from the tedium and complexity of our modern civilization. While our chief business must be with the minds of our students, we must recognize that they, as we, live mainly through the senses. The fact that the opportunity exists to relate the daily life of the student to his work by the study of composition as an art has been all but ignored. Such a study, associating literature with the other arts, will open up for the student new vistas of knowledge, and better than that, give him a new idea of the significance of art principles as they apply in the world of affairs. For at no former time have breadth of vision, imagination, sympathy, and love of beauty been more needed in the world. It is hard to see how, even from the narrow, practical view, such a study can be left so largely out of our curriculums.

To summarize, then, the advantages of a synthetic choice and arrangement of material as the basis for a course in English composition:

1. Such a choice and arrangement will preserve those practical and essential advantages of presenting clearly and logically a body of material which may be used as a basis for the inductive study of the forms of composition.

2. Selection and arrangement according to this principle will present a body of material which will stimulate thinking on the part of the student. It will increase this advantage over previous arrangements in that it will present a series of general subjects in related order, thus inducing the most serviceable quality of thought for the student who is being schooled in general principles; and, secondly, it will make for that mental "enlargement," that idea of the wholeness and unity of knowledge which Newman describes as proceeding from a "comparison of ideas," and a knowledge of things in "their true and mutual relations."

3. It overcomes the difficulty of the student who finds the classical and literary odious, since it centers attention on the relative rather than the absolute importance of the

subject of literature. It may thus readily be adapted to all types of students.

4. By compelling the student to make contact with all those departments of knowledge which go to make up a liberal education, it makes against narrowness and intolerance in the student, and gives at the same time a truer idea of the nature of the specialty in which the student is interested by placing it in its true perspective with reference to the general field of knowledge.

5. By emphasizing the study of composition as an art, it not only gives the student a better grasp on the nature of composition, but, by comparison of the other arts, it increases its breadth of view and supplies a means of developing qualities of feeling and will which are practically neglected in our educational programs.

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V

THE ETHICAL VALUE OF PHYSICAL EDUCATION

"What you are speaks so loud, men can not hear what you say." And that which is heard above your voice is your character. It is the highest form of personal power. Character represents the purposes of the individual. Whatever comes into one's life helps to mold it. Hence the necessity to create for ourselves the best possible environment.

Certain ethical qualities developed by physical education have a powerful influence in yielding strength of character. This attribute is not developed by shirking responsibility, by making way for the disagreeable, or by following the path of least resistance. It comes rather from assuming strenuous duties, especially those that yield a common good; from downing the evil, from surmounting difficulties and from conquering the opponent. Why pretend to see no wrong, why persist in being blindly optimistic, why dodge or outrule all conditions that require one to choose between good and bad? Why not attack the evils, remove obstacles, scorn danger, and search out ways in which to demonstrate courage? Our strength and security depend upon how resolutely we stand for the combat, how thoroly we ferret out undermining influences, how fearlessly we rush into the conflict for the supremacy of right.

Many an athletic youth is subjected to a test of character that does not come within the experiences of his less virile friends. This occurs when representatives of some college or university offer him money and social status if he will enter their school and play on the baseball nine or football eleven; in other words, if he will sell his athletic ability. The youth who can stand his full height and say "No" in the face of the proselyter offering him special inducements, whether they be cash, board and room, membership in a club, free tutoring, or a good position after college days, gives evidence of stamina, sportsmanship, a keen sense of honor, and true moral courage. It takes these qualities, and plenty of them sometimes, to resist the temptations held out by unscrupulous advertisers whose only aim is to win.

One may meet this win-at-any-cost spirit at home. We see occasionally an immoral person having authority or other influence who dishonorably tries to play a man who has become disqualified for some reason, possibly because of poor scholarship. Whatever be the reason for his disqualification, the world can not help but admire him if he refuses absolutely to listen to any and all urgent requests to play—perhaps under an assumed name—or to give false information regarding age, weight and other considerations. What an evidence of manhood he displays when he accepts defeat with his team and school, knowing that his participation would have gained a seeming victory!

Whether we work or play, let us make a whole-hearted effort, and let us see in the meantime if we can not contribute to the pleasure of others. That really is the whole secret of success and happiness. The brainy child who scorns to play with his fellows, tho they may not be quite so bright as he, and who withdraws from an active game, leaving his playmates minus a player, does himself infinitely more harm than he does them. They are sufficiently resourceful, without question, to fill the gap. They will create and overcome difficulty after difficulty, and will be all the stronger for it. He will seclude himself from the others there to reflect upon his loneliness or to hoard his mind with information.

And when he is grown he will have a mass of information that would benefit all, and that would bring from the world great returns. But how is he going to deliver the goods, and how shall he be repaid? He does not understand others well enough to know how to approach them.

He is completely taken off his feet by the first opposition. Competition is only a word to him. He has never met it in play, how should he recognize it in the work of the world? He suffers easy defeat, and he can not rally with ease. He has never played hard enough in his life to develop that dogged pluck and moral aggressiveness that would hew him a way thru stubborn opposition.

One learns in play to take the initiative. The modern trench soldier knows full well the importance of this quality in making a raid. He knows, furthermore, that the power of initiative is not developed on the spur of the moment. It grows thru years of steady endeavor. Nothing short of preparedness will yield the readiness to step to the front and assume entire responsibility at the critical moment. Tenacity of purpose plus the will to resist temptations and to overcome difficulties insure ultimate success. Put your whole life and energy into a series of team games, sacrificing other interests, declining invitations to enjoy light, good times, and see if in later years your application on the athletic field does not make you a better lawyer, engineer, nurse, or home maker.

Motor activities strengthen the will. The nature of our muscle habits determines to a great extent our will power. Play, the normal activity of childhood, furnishes numerous instances for the development of persistency. The winner—and where is he who would not win—has a tenacity of purpose that makes him strive until he registers what to him is a true victory, tho to others it may appear only as an honorable defeat. He wins a faith, a confidence, a power that will yield him ultimate success, no matter how multiple and how seemingly insurmountable the obstacles in his way.

And he is a good sportsman! He has struggled so often and so hard that he knows how to regard success and failure. A victory is accepted with good grace, a defeat with even better. His more brainy neighbor of youthful days spends years of his manhood acquiring the same moral qualities, and possibly even then regretfully finds himself at the end of life lacking the very traits of character that would have assured him a successful career.

Along with perseverance and self-reliance, physical education affords opportunity for the cultivation of fairness and uprightness. It is no special credit to anyone to be fair and square when he has no alternative. But to find numerous occasions as in athletic sports to trick or foul another, and to resist manfully the temptation to be unfair is a true developer of this quality. It is not the occasional occurrence but the repeated performance of this sort of conduct that stamps one as eminently fair and honest. The true athlete is dominated by the spirit of fair play.

Would you miscall the score at tennis? Would you play off-side at hockey? Would you move your golf ball to improve its lie? Would you trip an opponent at football? Would you, at the beginning of a race, steal distance by plunging forward just when the starter's finger has pressed upon the trigger, before you have heard the report—in other words, would you "beat" the pistol? If so, then you are not only dishonest and untruthful, but also unsportsmanlike. You must learn to win honorably or to lose honorably, as the case may be. It does not require any special strength of moral fiber to kick a man in the ribs, to elbow him from the good throwing position which he has won, or to block the play unfairly. Any cheat can do it. And some who have committed such shameful vices in youth actually live to grow up. When we see a person who beats his way thru the world, who disgraces politics, or who embezzles money held in trust, we wonder how he played in childhood.

True sportsmanship would not permit one to be guilty of selfish or unfair conduct. Do you accept the umpire's decision as final? Do you avoid making fouls? Are you certain to use courteous language and a respectful manner whether dealing with team mates, officials, or opponents? If so, you have the earmarks of a real sportman. A spectator would not be surprized to see you unselfishly yield to another your privilege of making a brilliant play that he could make as well as you. No doubt you would cheerfully take a place as short-stop when you much preferred to pitch; or in batting you would "bunt" the ball knowing that such an act would put you out on first base, but realizing also that by denying yourself the pleasure of achievement you have enabled a runner to reach the home plate, and so have promoted the success of your team.

Out of self-denial grows self-sacrifice. It becomes a pleasureable duty for the youth who knows he can not make the first team, to play on second, third, or scrub team, if such it be, just to whet the valor of the better athletes. A girl lined up on the floor with forty-nine others may wish to leap and dance and play, but she comes to understand that, if she requires more than one-fiftieth of the instructor's attention, she is robbing all the others of their rights and privileges, so she suppresses her personal desires and quietly awaits her turn for action.

Superior morals become ingrained in one's very nature. They are worked into the fiber of the soul. The athlete must frequently choose between fair means and foul, and act at once in accordance with his choice. Often when under great emotional strain he is tempted to burst all bounds, breaking rules and defying authority. With practise he develops the power of inhibition which makes it easy for him to comply with regulations. This inhibitory control becomes a valuable asset to his character. It not only keeps him from wildly throwing a ball into space, and from plunging over the mark before it is time, but it also insures him against reckless adventure and against taking unfair advantage of another in the contest of life. To trample upon the rights of others becomes quite as impossible as to live without air. One's respect for them is too thoroly aroused, and his sense of justice becomes too keen. He is stable, dependable. Self-restraint is shown in all his dealings. He has gained a power that enables him to resist any temptation to win at bitter cost to another. He has won self-possession, than which there is no greater possession.

Motor activities develop self-control by affording opportunities to express knowledge. With no opportunity for expression, knowledge becomes dangerous, for it loosens the reins upon the mind without enabling this organ to govern its only instrument of conduct. The body never having been drilled in proper action responds quite as readily to impulses to go wrong as to those that lead aright. Ignorance, the curse, is truly blissful if, in accumulating mental data, one can find no means of motor expression, no way of testing his own power.

Self-control presupposes freedom of action. The greater the number of occasions for the exercise of judgment and self-control, the quicker and keener will one be in making decisions, and the more certain will he be of doing the correct thing in the correct way. He who can stand calmly at the plate before a clever pitcher, or who can remain firmly "set" for a race until the pistol is fired, has developed a considerable degree of self-mastery.

The emotions—fear, anger, joy, grief, love, hate, shame, pride, and others—are brought under control. The cultivation of emotionality is exceedingly valuable. Untrained emotions will drag one from a high place in an enlightened community to the very gutter. They are responsible for many of our domestic tragedies. They have plunged nations into the awful abyss of war.

Anger is sometimes justifiable, but if not directed and controlled it manifests weakness rather than strength. Fear may take such complete possession of one that he is unable to move. Stage fright has rendered flat and insipid many an address that might have been forceful and inspiring. The pale face, the set jaw, and the nervous manner of a contestant before a game often reveals a wholesome fear. It is not a dread of possible injury or of losing the game, but simply a fear that he may not play with all his might, that he may not give of the best that is in him. With practise this fear makes way for self-confidence, which of itself insures a goodly measure of success.

Depressing states of mind exhaust vitality. Pleasurable emotions, like joy, hope, and love, more than double one's energy. If washing dishes, making beds, and carrying coal fail to relieve fatigue and to stimulate organic processes thus increasing vigor, it is because such activities lack the deep emotional elements which of themselves make labor lighter.

Physical education promotes clean living. An understanding of the purpose of the body and a knowledge of its functions and proper care can not fail to raise one's moral standards. After all, a person's ethical conduct is no more or less than the purposeful contraction of well-trained muscles. His character depends upon how he organizes his habits of reaction. Instant response to commands of the will gives the power of self-direction. It is the repetition of muscular movements together with the inhibition of untimely impulses that gives staying power, that yields courage and prevents foolhardiness, and that makes self-sacrifice easy. A practised man or woman finds it no great hardship to give up his possessions for the common good, even his life, if need be. Too often in play has he sacrificed what to him at the moment was his all in all. Manliness and womanliness are the crowning attributes developed by any training.

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VI

DISCUSSIONS

OPPORTUNITIES OPEN TO THE TEXTILE SCHOOL[1]

The lack of interest in their work manifested by many of the employees in the cotton mills of Massachusetts has led several of the far-seeing superintendents to attempt to stimulate an intelligent interest by cooperating with the textile schools of the state in giving scholarships or by paying for the education in the schools of some of the boys of ability. It was found that the boy trained in a textile school was better able to make improvements in his work than the boy without the technical training. Mr. Henry W. Nichols, principal of the Bradford Durfee Textile School, has long been an able worker in this field and has written the following article which we are glad to publish.

After completing a college course, in an institution where the so-called academic side overshadowed the scientific, in casting about for a life-work I decided upon the manufacture of cotton textiles, and, with the object of learning the business from the inside, commenced work in a cotton mill. Working from one department to another, until some time had been devoted to each department of the mill, five years were given to this work, at the completion of which time, and feeling that there were certain things that could be more readily learned in a school, one year was given to studying in a textile school. At the completion of the school work an opening in a textile school was accepted, and since that time, covering a period of practically eighteen years, my work has been entirely with the educational side of the textile industry, either as an instructor or in a managerial position. I am taking the liberty of injecting this personal side into this article simply for the purpose of emphasizing the fact that, commencing at an age when one is supposed to have acquired a certain amount of discretion, the writer started with the definite object of learning the cotton manufacturing business; that solely to attain this object, work was taken in a factory where the opportunity was presented to study not only the mechanical, but also the human side; that to round out the knowledge thus acquired the textile school was resorted to, and a very close association has been had with textile education in Massachusetts since its inception. Further, such an experience should give one rather a close insight into the aims, methods and results of textile education in the leading textile manufacturing state in the Union.

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[1] A paper read before the Meeting of the Textile Section of the American Society of Mechanical Engineers, in New York, December 4, 1919.

Practically twenty-five years ago the Legislature of Massachusetts passed an act authorizing any city in the state, operating four hundred and fifty thousand or more spindles, to establish and maintain a textile school for instruction in the theory and practical art of textile and kindred branches of industry. This act further provided that, under certain conditions, the state would contribute towards the establishment and maintenance of any school conforming to the provisions of the act. Three cities have taken advantage of this act, namely, Fall River, New Bedford and Lowell.

That the framers of this legislation saw clearly the need of textile instruction in such a textile manufacturing state as Massachusetts is self-evident. Just what this textile instruction should consist of and how it should be conducted was not, however, so clearly apparent. Previous to the introduction of these schools in this state but little attention had been given in this country to this particular phase of education, and altho several such schools were to be found in foreign countries, it is to be doubted whether the experiences of such schools were made of very much use, or whether the conditions were sufficiently alike to warrant drawing any lessons from their experiences.

It was left, then, for the schools established in Massachusetts to work out their own salvation, and I believe that I am within the facts when I say that they have continued to do this without drawing very largely, not only upon the experiences of similar schools outside the borders of Massachusetts, but also without drawing upon the experiences of each other. This, I believe, to be a criticism that can justly be made of our schools. Coming down to the present, let us review the work being done by these schools, and at the same time ask ourselves whether there are not broader fields of usefulness that may be opened.

Broadly speaking, there are three classes of students that may be attracted to a textile school. First, there is the student who wishes to learn to operate some individual machine met with in textile manufacturing; this student is looking forward to securing work as an operative in some mill where he or she may be able to earn a living. Next, there is the operative in the mill who already has employment in the industry, but who has the ambition to enhance his usefulness to the mill and thus advance his position. Lastly, there is the student who has had the advantage of a better academic education than the students in either of the two previous classes, who has chosen the textile industry as a life-work, and who, with or without previous mill experience, seeks to fit himself for an executive position either in the manufacturing end or some closely allied work.

To the first class, that is, to those students who wish to secure employment in the textile industry and who desire some preliminary instruction in order to apply for semi-skilled work, such as weaving, spinning, and so forth, what have the textile schools of this state offered? Practically nothing, and when I make this statement I am making it in a comparative sense. Probably no textile school in the country has, up to the present, gone any further than has the Fall River school in the way of training the man for the job of operating machines, and yet what has been done by this school is as nothing when compared with what is possible along this line.

The question, then, naturally arises, why is it that more has not been done, and my answer is because the schools have not obtained the cooperation of the mills, which is absolutely necessary to carry on such work with the schools organized as they are at present and as they no doubt will continue to be for some years to come. To illustrate my point I will take the case of a boy or young man who wishes to secure a job as weaver in a mill. He has had no previous mill experience, is anxious to learn as quickly as possible, and naturally wishes to be sufficiently expert, when he applies for a position, to handle a number of looms that will guarantee a fair weekly wage. To such a student the Fall River school, and I am using this school as an illustration, since it offers more to this student than any other school, says" we will take you into our evening classes only, and we will teach you how to tie a weaver's knot, how to draw an end, how to start and stop a loom, in short, how to operate a single loom." Nothing more can be done for this student, since the equipment of the school and the layout of the machinery do not sufficiently approximate mill conditions to warrant the effort of making the student a weaver in the full sense of the term. What has been said with relation to the weaver may also be said with relation to any other strictly operative job.

If these schools are to train men and women for such jobs, and I believe they should, then one of two things must be done—either the school must build a mill to be run under actual mill conditions and for profit, in which the students may work under the charge of instructors, or the mills must cooperate with the schools and offer to give the student that portion of the required instruction which the schools are not able to give. I believe the latter plan to be by far the preferable one for the textile centers of Massachusetts in which are located the existing schools. Such a plan that would prove extremely beneficial to the industry could very readily be worked out, provided that cooperation, which is a prerequisite, could first be established.

In those cotton manufacturing sections of the country where the industry is more scattered than is the case in Massachusetts, such a plan would be less satisfactory than would that of having the mill under the same management as the school. With this latter arrangement the school is able to give the student actual mill conditions, and consequently perfect him in the line of work he wishes to follow. Such a plan is being worked out at the present time in Spartanburg, S. C., and it may be that the South, which was the last to enter the cotton manufacturing field, as well as the last to take up the subject of textile education, may yet blaze some new trails which we in the North will be obliged to follow.

Coming next to that division which includes the mill operative who is looking to something better than the mere routine of the operative, what is the textile school offering to such men? In this field the school is offering many inducements and performing much useful work. The evening school places within the reach of these men the opportunity of studying machines and processes under men who are recognized experts in their respective fields. It gives them these opportunities in schools where the entire object of the work is to impart information, and where questions and discussions are not only welcomed but invited. At the same time, such students receive the practical part of their training as they perform their daily occupations in the mill with the factory surroundings. Here again, however, this branch of the textile school's work could be immeasurably enhanced if the schools could but have the cooperation of the mills, which the schools so much need, and which could not but serve to greatly benefit the mills. Every department of a mill should have at least one or two men in training, capable of stepping into a more responsible position. If such men could be encouraged by the second hands and overseers of their departments to follow some course in the evening classes of a textile school, and the work in the school shaped to meet their particular needs, how much more interest the student would take in his studies as well as in his work, also how much of added value would such men be to their employers. Promiscuous advertising of the evening classes of a textile school may serve to swell the enrolment, but how many of these students have a definite comprehension of what they are after, and how many clearly understand the value to them of the different courses offered? How many have a definite object so clearly in view that they will carry on until the work is completed? The examples in all textile schools are many of students who enter upon courses of study in the evening classes which are not fitted for their particular needs, with the inevitable result that they are soon discouraged and drop out, causing considerable dissatisfaction and wasted effort on the part of both the student and the school.

On the other hand, if the student could be selected by the mill by reason of some particular fitness for the work which he has shown in his daily occupation, and his studies in the school shaped to fit him for this work, while the total enrolment, no doubt, would fail to show the results obtained from considerable advertising, yet I venture to predict that the work of the year would more nearly approach the one hundred per cent efficient mark. I believe the Fall River school to be the only one to have attempted to bring about such a cooperation between the evening school and the mills. Formerly it was our custom to have large posters announcing the opening of the evening school and the courses offered, placed in the different departments of the mills; evenings were assigned for registration, and those wishing to enter this department of the school applied on those evenings and made out their application blank.

Last spring a representative of the school interviewed the different superintendents and overseers in the city, asking each to express his opinion of selecting from his employees certain ones to whom he felt the evening work of the school would be of particular benefit. The response was so encouraging that it was determined this fall to distribute to the mills registration cards which the overseers would give to the employees selected, together with a printed circular describing the different courses offered by the school in its evening department, and a word as to the wisdom of taking up some particular course of study. The overseer turns these cards in to the superintendent after they have been filled out, and a representative of the school collects them from the superintendents. This is new work with us, but the enrolment in our evening classes this fall, particularly in the purely textile work, fully demonstrates that work very much worth while will result from this closer cooperation between the mill and the school. Not only are these classes filled to capacity, but what is even more pleasing, the men who have come to us directly by means of this cooperation are those to whom the work of the school in the evening classes will prove most worth while. Furthermore, the school will be much better able to shape its work to fit the particular needs of the student, and should, for this reason alone, be in a far better position to retain the interest of its students.

I wish to illustrate what I have been trying to point out by one very illuminating example which has been brought out by this work. A superintendent informed us that he was to put some leno work into his weave room; that none of his fixers understood this work, but that several were capable of picking it up very rapidly if given the opportunity. Inquiry disclosed the fact that other weave rooms had conditions similar to the weave room in this man's mill. It was a very simple matter for the school to organize a class in this particular work, and to give these men exactly the instruction which they needed, since the school was advised in advance, and nothing was included in the course of instruction that was extraneous to the needs of the men.

On the other hand, suppose an individual loom fixer had come to the school and asked to be taught leno fixing in the evening classes. In the majority of cases he would have been obliged, in order to secure the instruction he particularly needed, to have taken considerable work extraneous to his needs, and which could not but have tended to dull his enthusiasm as well as his appreciation of what the school had to offer.

It is, to the writer, practically self-evident that such cooperation between the mill and the school, wherein the mill points out the needs and the school seeks to fulfil those needs, must result in a very much increased benefit to every one concerned.

Coming finally to that student who is able to devote his entire attention, for a considerable period of time, to acquiring the intricacies of textile manufacturing, I refer to the day student, the textile schools of Massachusetts are offering and giving courses which, with the school's present facilities, I believe to be of very material benefit. But here again we see the need of closer cooperation between the mills and the schools. For several years I have seen the vital need of such students supplementing the theory obtained in the school by the practical experience obtained only by actual millwork. Such practical experience the schools, equipt as they are today, are unable to give. It is left to the student to obtain this work either after he has completed his school work, or during the summer months when the school work is suspended. In either case the results can not be as beneficial as they would be were the work in the school and the work in the mill more closely correlated. A mill, fully equipt, turning out commercial product, and forming a part of the school unit, in which the students could be given regularly assigned tasks to round out the instruction given in the school itself would certainly be an arrangement very much superior to the present one. It is to be doubted, however, whether such conditions can be brought about, and a simpler, and possibly a better, method would be for the mills themselves to give to the students of the schools this practical experience during the time that the student is following his studies, the work in the mills to be so shaped as to supplement the work of the school.

Personally, I believe it to be to the self-interest of the mills to go even further than this, and select from their organization one or more young men who have shown particular ability while in their employ, and offer to such the advantages of a textile education in the day classes of one of the textile schools, a part of the course outlined for such a student to consist of practical work in that mill which gives him the advantage of the school instruction.

I firmly believe that it would mean a tremendous advance to the textile industry of this country if each mill of any size would adopt the policy of having at least one member of its organization undergoing such training. Such a policy would tend to attract to the industry many young men who today are seeking other and less profitable and less essential occupations. It would train up a body of men who would be capable, in a few years, of filling those positions which many mills today are finding it difficult to fill, and which, otherwise, will be far more difficult in the future to fill. It would serve better than any other means to bring the school and the mill into that close association so essential to both, and to bring the great textile industry of this country to even a greater degree of efficiency.

I wish to take the opportunity to touch upon one other activity which rightfully comes within the scope of the work of the textile schools of this country, and to which, up to the present time, they have given but very slight attention. I refer to research work in the field of textile manufacturing.

A definite plan of research work should be put into operation by the schools, and the attempt of the schools to solve the many problems constantly arising in a manufacturing plant, the working out of new methods, and the testing of raw products, partly finished, and finished products, should have the hearty cooperation of the mills.

It is pleasing to note that a start has been made in this work. The National Association of Cotton Manufacturers has appointed a committee known as the Research Committee, the object of which is to foster any work along these lines. This committee has recently assigned to each of the textile schools in Massachusetts certain problems of a research nature, to which the schools are to give their attention.

The writer has the privilege of being a member of this committee of the National Association, and to attend one of its meetings is but to be impressed by the tremendous scope of the work which is waiting to be systematized and carried on for the benefit of the industry. It is only proper that much of this work should be conducted in the textile schools, and they should be provided with all the appliances essential to the proper prosecution of this work. This is in accord with what other technical schools of the country are doing for industry, and our textile schools can not be said to be performing their highest function until they have developed much more along these lines.

I trust that in this short review of the work of the textile schools I have made sufficiently clear what, in my opinion, is the most vital need of the schools today, namely, close cooperation between the mill and the school; that cooperation without which it is impossible for the schools to function in the highest sense of the term, and with which the schools would prove of tremendous benefit to the industry as a whole. That the schools have been remiss in this matter I do not doubt, since it should not be left to industry to point the way; rather should it be the duty of the schools to demonstrate conclusively how such cooperation could best be carried on, and how, when once functioning, it would serve to benefit the industry. If the schools should succeed in once demonstrating this fact, I do not question the response that would come from the mill itself. Here, indeed, is full opportunity. Shall we reach out and grasp it?

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WHEREIN AMERICANIZATION WILL FAIL

In the present effort at Americanization which is sweeping the country to-day and which is uppermost in the mind of every one who has the interest of our great country at heart, there is present also a danger which will mean failure if it be not avoided.

The newly arrived immigrants, and those who have been here for shorter or longer periods, will quite naturally be in the first line of attack. These brothers from the countries of Europe, or it may be from those of Asia, have all brought with them traditions that have been held by them and their forefathers. If in our zeal to Americanize these newcomers, we allow them to renounce these traditions, the movement will meet with failure instead of success.

Strange as it may seem, people are not prone to suddenly adopt new customs or new thoughts no matter how much better these customs or thoughts may be. There is a feeling for, if indeed not a fondness for the things that have been. The physical and mental makeup of the individual as well as of the race is to a large extent dependent upon this. The old adage "There is nothing new under the sun" comes to mind.

Is it not for us who are aiming at Americanization to more closely study the Un-American? Will we not find that the Slav or the Lithuanian or the countless other nationalities represented at our immigration offices have assets that will make them most valuable citizens if their capital can be used in the process of Americanization? What happens, if we urge them or even allow them to throw off the past in an effort to suddenly adopt the new? Imitation is a powerful factor in human development. To imitate in lines of least effort will quite naturally appeal most strongly. Are these lines of least effort also the lines of most worth?

A statement of one of our students is a case in point. On the day preceding a religious holiday she announced that she would be unable to attend school the next day, that is, on the holiday. When asked if she would go to synagogue she replied, "Oh no, my mother goes, but my brother and I are too American for that!" Think of it: Think of linking "American" with irreligion; for that is what it amounts to since there is no such thing as an American religion. While there is no objection to an individual's conscientiously adopting a religion different from that of his ancestors, it is only too true that renouncing that religion most frequently means cutting all religious ties. Lack of religion has never been recognized as an asset by any nation—least of all by America.

Is it not possible to make the past enrich the present? Has not every tradition something of value, something of truth in it? Have not we the strongest hold on an individual through his traditions? Some writer has said, "We are carried forward on the wings of our emotions." A man is a better American for being a good Catholic, Protestant or Jew, or for having been a good Englishman, Russian or Italian.

In the past, and even in the present, there has been an unsocial attitude toward the minority on the part of the majority. Two results are sure to follow such a state of affairs. Either the minority will shun the majority—an Un-American situation—or this minority will strive to throw off traditions with an idea of becoming one of the majority. If they are accepted, and are just as good or even better than with their traditions, there can be no objection, but traditions certainly do play an important part in human nature. Even the early colonists boasted of their English, Dutch or French ancestry, and even today there is not a single American who has forgotten the other country from which his ancestors, be they recent or remote, came.

One can not get away from his ancestors if he try, so why try? Every nation has its strong point as well as its weak ones. Let us urge our newcomers to treasure the former and forget the latter. It does no harm to an individual to remember the valuable traits in his lineage. What harm if he does not become Americanized over night, as it were? How many of us would become "Spaniardized" at once, if transported to Spain? There are probably many things Spanish that we never could do, much as we should like to become citizens of Spain. As long as we made an effort to fall in line to the best of our ability and to serve to our limit, surely no objection should be raised.

America has always welcomed the foreigner, has offered him an opportunity for "life, liberty and the pursuit of happiness" without consideration of race, color, creed or previous condition of servitude. In Americanizing, we might lay emphasis on the latter word—servitude—since so many give evidence of seeking our shores with an idea of avoiding not only this but all forms of service. It is just here that tradition can be of such tremendous value. Many of the state regulations of other countries are aimed at establishing one hundred per cent of law and order. While many have left these same countries because they chafed under the endless number of restrictions, it is also true that an equal number have come because they sought larger opportunities for financial or personal development. All, even those who chafed, must see the necessity for the laws of their mother country. So with their traditions; religious, social, ethical.

Until they can modify their ideas and customs so as to harmonize them with our American ones, had they not better hold on fast to those they have?

ROSEMARY F. MULLEN

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VII

REVIEWS

Man and the new democracy—By WILLIAM A. MCKEEVER. George H. Doran Company. 1919. 250 pages. $1.35 net.

Doctor McKeever is the head of Child Welfare in the University of Kansas, a lecturer, Boy Scout leader, a writer of syndicated newspaper articles, and the author of several books on training boys and girls. He therefore has a wealth of background against which to project his ideas upon his chosen theme. Only one who knows adolescent youth at first hand could have written so intelligently and convincingly about them. His deep love for the young is also apparent as he urges proper protection and education of the oncoming generation in order that the "great common man," inherent in American life, may come to the full measure of development.

The book makes no claim to deep research nor sweeping scholarship. It is not written for the college professor nor the trained sociologist, but rather for the common man and common woman, of whom our country is mostly made up, ordinary people who love their children and have a strain of idealism in their nature, men and women who desire enlightening because they love their fellow men and their country. And so the book makes no pretence of literary finish. It has been written by a man deeply in love with his subject, who has studied much and observed carefully, who has his own opinion as to the World War, its results and their potentialities, and who sets forth in easy fashion his conclusions and aspirations. The treatise is a forward looking document with something of the note of prophesy sounding through its pages.

To quote his own words: "Our plan embodies first the idea that the individual must realize thru his own trial-and-error experiences the larger elements of the racial inheritance within him; second, the idea that the course of training must be headed all the time toward a participation in the experiments with new modes of self-direction and self-improvement in which the race at large engaged; and third, the idea that vocational occupation or economic success is not properly regarded as an end in education, but merely a happy incident or by-product thereof."

The hope of the race has always been in its young. The parents denied opportunity for extended formal education deny themselves that their children may have advantages superior to their own. Adulthood is full of errors as a result of misdirected education. The little child alone can lead the race to the heights of promise and of possibility. The author seeks for a rediscovered, redeemed, redirected common humanity, but this search can be rewarded only in the discovery of the child, eternal and universal. There is no essential difference in kind of the common attributes of the infants among the different nationalities, altho there is some difference in degree. Children should first of all be permitted to plan. Work should be interpreted in terms of play. The child's instinct for personal and group combat should be focused on social and industrial problems in his maturing years. The author deplores the competition system of the schools because it exalts the genius at the expense of the common child. The sociability of the child his religious instinct, the desire for a vocation, marriage, service, are all topics clearly presented and their relation to social well-being and true democracy plainly indicated. There is biting indictment of communities that measure their wealth by their bank balances. He places humanity above business, big or small. "The complete physical care-taking, moral defense and educational direction of the young of a city is its greatest guarantor of the business and thrift of society"—a statement which all teachers will most heartily endorse.

Issue may be taken with Mr. McKeever in his statement concerning the attitude of capital and labor during the war. It is true that the attitude of the government was ideal. It assumed that both the other parties would be actuated by the same ideals. Unfortunately, history records too many slackers on the railroads and in the shipyards and avarice and dishonesty on the part of employers who did government work on the cost plus ten per cent plan. Our operatic singers at least would not agree with the statement "that there are really only two great classes of vocal music in use today, the martial air and the lullaby." But such statements are only thought-provocatives. When the author decries the course of study for women with its stress upon mathematics, he is on surer ground. It is a question whether a course in adolescent love-making is desirable. It would undoubtedly prove popular.

The chapters on Religion as a Part of Democracy and Health as an Element of Civilization are among the best in the book. A brief review forbids extended treatment, but they merit close reading.

Part Two deals with the Quest of the Individual. After raising the question, "Are we ready for democracy?" he shows how reorganization from within and the development of the spirit of sacrifice and of sentiment can alone bring in the true democracy. The application of practical psychology will aid in a better understanding of each other and of our life problems. The neglected after-school education must be reformed in the interest of juvenile betterment. America, the leader of the world, should lead in the program of the welfare of the young. This is the first great step toward higher enlightenment. Nations abroad will catch the enthusiasm of our example and thus will the entire world be made safe for democracy.

The book is especially welcome at a time when our nation realizes as never before the inadequacy of our educational machinery, when our school programs are being revised, and courses of study remade. It will help mightily in clarifying educational ideals and in setting up definite standards. One does not need to subscribe to all the philosophy and the points of view of the author in declaring the book well worthy of careful study.

WILLIAM L. FELTER

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The life of Joel Chandler Harris—By JULIA COLLIER HARRIS. Houghton Mifflin Company, 1918. 620 p. $3.50.

The life of "Uncle Remus" by his daughter-in-law marks a pleasant and necessary stage in the evolution of a literary biography. Other biographies of Harris will undoubtedly be written. But none of these, however complete and orderly their bibliographies, however just their evaluation of Harris' place in literature, however penetrating their analysis of his style and their definition of his relations to the fund of lore from which he drew his materials—how easy to imagine the mingled rage and terror at all of this in the blue-eyed and red-haired Harris, and the final incandescent triumph of the red hair—none of these biographies still to be written will ever quite take the place of the present volume. For it is here, under the intimate touch of the hand of filial piety, that the man himself gradually unfolds before us. Here in those few last years of the old order, whose flavor his pages imperishably preserve, we catch sight of the half-orphaned child of wayward romance, passing from the meagre opportunities of a small Georgia town to a veritable university on the plantation of Mr. Turner; a plantation, as readers of "Joe Maxwell" know, with a library, a printing press and a hat factory; an opportunity, indeed, to observe almost every form of human industry and to make acquaintance with nature not less in the woods and fields than in the cabins of this quarter and in the study of his conscientious and able teacher, Mr. Turner himself.

Harris is of those writers early dipped in a Styx of printers' ink. A "cornfield" journalist he called himself to the last. And as a brilliant paragrapher on various southern newspapers his active life was spent. Brilliant paragraphers are not rare, but those who having learned the trick of the pen are so fortunate as to discover that they have within them a store of highly interesting things to write about are few. Of such stores Harris had more than one. Above all else he had the negro. Like Scott, he had absorbed, quite unconscious of its literary value, a vanishing popular lore. He had come to know the negro better than any man who has had the power also to write about him. And when, in 1877, the chances of journalism drew from his pen a revival song in negro dialect he discovered that he possessed something which the world very much wanted to hear. By the next year Uncle Remus was in full career in the columns of the Atlanta *Constitution*. Thruout Harris had the good sense to keep faith with his material and in the dialect in which he found his stories he transmitted them to the world. And if five successive volumes are not enough to stay the world's appetite for such things, a sixth and posthumous volume comes but yesterday from the press as a sort of grace after meat.

Once the story-telling vein was opened he must perforce work it. The negro would serve as a character in a story of Georgia life as well as the mouthpiece of his own traditional beast-epic, and then there was' besides, the poor white. *Mingo*, in 1882, broke a path into this new and no less successfully cultivated field, and *Free Joe* and *Daddy Jake* followed. Harris, who had lived thru the last days of the old régime, the war, and the reconstruction, had indeed plenty to write about: *On the plantation*, *Balaam and his master*, *Tales of the home folks in peace and war*, and other volumes turn such experience to excellent literary account. Finally, in the *Little Mr. Thimblefinger* series he records less and works his own fancy more, in the end overtaxing himself in the launching of *Uncle Remus' Magazine.*

Harris' refusal to look upon himself as a literary man, upon his work as literature, amounted to an obsession. As a lion, his roar outgentled the sucking dove. At a banquet, could he be lured there, he was as inarticulate as Washington Irving. There was no false modesty about it, nor yet could he have been genuinely unaware of his gifts. He could hob-nob with Riley or Roosevelt and write charmingly to his publishers. He knew that he had little knack for the larger structure of the novel, but he also knew that he could write short stories that entitled him to a permanent place in literature which he seemed bent on disclaiming for himself. The true explanation of this seeming diffidence may perhaps be found in the present volume. The explanation, I venture to think, is the "Wren's Nest," the home in the West End of Atlanta, and the circumjacent "Snap-Bean Farm." Here he proposed to live the life of his large and energetic family, his garden, and his animals, to ride to and from his work in the mule-car, and enjoy his half-hour nap after the midday dinner. His literary success was an accident, it was fun in itself and welcome for making possible a more generous life at the "Wren's Nest." But he was not going to let the world invade the life he felt himself fitted to enjoy, nor was he going to be drawn out of it beyond his depth. He fended off the human miscellany because he possessed something which the crowd, however admiring and capable of admiring rightly, could easily destroy without yielding him any satisfying equivalent. His letters to his children, of which the present volume contains many, and to Miss Dorothy Loye, safely at a distance in Baraboo, Wisconsin, tell of the things that to him meant life. As for the crowd, *odi* it was not in his honest heart to say, but *arceo*, by all means, for that way only lies safety.

HARRY MORGAN AYRES

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By GROSSMAN, LOUIS. **The aims of teaching in Jewish schools.** With an Introduction by DR. G. STANLEY HALL. Cincinnati, 1919. 245 p.

The secularization of public schools has had the valuable result of compelling a new orientation on the part of those who are interested in religious education. The success of the religious school, it is now recognized, is dependent upon the application of sound psychology and methods of instruction to its particular problems. To this subject, as it affects the Jewish child, Rabbi Grossmann has attempted to make a contribution, which has the strong endorsement in an introduction by President G. Stanley Hall. The work is obviously written from the standpoint of Reform Judaism and accordingly fails to meet the needs of Orthodox Judaism which are today perhaps more acute. No reference is made in the book to the organization and scope of the school with which it deals, or the amount of time devoted to the subject—facts which would in some measure serve as a basis for evaluating the work. A course of study and a time-table would also have been useful additions, while some reference to the type of teacher employed might have served as a justification for many of the well-meaning but platitudinous phrases scattered thruout the book.

The problem of religious education is much deeper than one would gather from the distinctions drawn between the secular and the religious school. It is not true, for example, to say that "the difference between the public school and the Jewish religious school lies in this very fact that the secular school does not aim at more than discipline, while the Jewish school goes beyond mere lawful conduct and works for a moral ideal," or that "in the public school the child learns the facts of every-day life. In the religious school he learns to interpret them, to see their meaning and to use them for high ends."

It is perhaps due to this failure to understand the advance made by the public school that the author has also failed to realize the progress made in the last two decades in psychology. Instead of analyzing the problems of religious education from the point of view of growth and social behavior Dr. Grossmann divides up the child life into eight periods or types to fit into eight grades of his schools. Thus "In the third grade we dealt with dependence; in the fourth with independence. In the fifth grade we shall deal with duty," and so on. The work of each grade revolves round such "central truths." One of these central truths is that the child does not begin to control itself until it reaches the fourth grade, the period of intellectual and moral absorption. In the same way altho "the Jew already in childhood is much given to assert his personality" (in the third grade), in the fourth "it is not yet time for self-expression," the sixth sees "the rise of personality," until in the seventh grade "individuality develops." The absence of an application of social psychology and a sound philosophy of education leads to the statement that "the child at this age (the sixth grade) is not yet social; that is, does not yet know the precise bearings his life has toward others" and that children in the seventh grade have no such capacity as adults for communion in worship, "they can not de-individualize themselves." Earlier still, in the fourth grade, we learn that such duties as regard for persons, regard for the property of others and helpfulness "are not social duties for this type of childhood. They are an expression of the self." Finally, there is the statement "that we are not educating the child in our Religious Schools for the synagogue nor for Judaism, but for his own destiny."

Altho written for the religious school the greater part of the book is devoted to moral instruction, perhaps because of the author's attitude to the public school in this field. The religious content and particularly the Jewish content is slight. The nature of the material that is taught is only outlined superficially, but consists of biblical history, ethics and religious principles which the Jewish religious school shares with other denominational schools. Only Hebrew is an avowedly Jewish subject. It is accordingly introduced in the third grade when "the language instinct is alert and most responsive," but how it is to be taught and how much time is to be allotted to it is not indicated. The remarkable advance that has been made in teaching this subject by the adoption of modern methods is ignored, so that while the story of Joshua is to be vitalized by a snatch or two of his own words, the fact that Hebrew has not only been "the organ of Jewish piety" but is today becoming the vernacular of thousands is not utilized, altho this fact more than anything else has "galvanized Hebrew into life."

Dr. Grossmann has underestimated the difficulties of the task that he has undertaken, both those of religious education in general and of the Jewish child in particular, and shows no familiarity with recent contributions in both phases of the subject. His work belongs to the class of benevolent Sunday school pedagogy, which is fortunately beginning to disappear. I. L. KANDEL

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VIII

NOTES AND NEWS

Report of the joint committee on grammatical nomenclature

This report, which is now submitted to the public in printed form, was drawn up by a committee of fifteen, five of whom were appointed by the National Education Association, five by the Modern Language Association of America, and five by the American Philological Association. In the membership of the committee both scholarship and experience were well represented, and the time and labor which these fifteen busy teachers and scholars devoted to their self-imposed task call for the grateful recognition of all who have at heart the welfare of linguistic studies. The report has been accepted by the National Education Association, which further recommended that "the nomenclature set forth in the report of the joint committee be employed in the schools of the United States." The National Council of Teachers of English has also voted to cordially endorse the report and to recommend its use in the schools of the United States. The Modern Language Association in its session at Cambridge, in December, 1913, accepted and approved the report, and exprest to the committee its gratitude "for their long, arduous and devoted service" (Proceedings for 1913, p. xv). The Central Division, meeting at Cincinnati at the same time, past similar resolutions, and approving resolutions were also past by the American Philological Association at its Christmas meeting.

The methods of the committee in drawing up its report were on the whole simple, intelligible and commendable. Tho similar movements towards uniformity in grammatical nomenclature have for some time been under way in England, France and other countries, the committee have wisely preferred to attempt to bring some harmony into our domestic practise before approaching the larger question of international uniformity. Much will be accomplished if teachers of English, German, French, Greek and Latin in America use a uniform terminology. And since their concern is primarily with the teaching of grammar in an English-speaking country, the committee have properly chosen English grammar as the basis of all their analysis and nomenclature. As the committee points out, the whole foundation of grammatical study is laid "in the study of English in the grammar schools" and all subsequent work, "in whatever language, is based upon this study" (p. vii). The study of English grammar manifestly does not provide all the categories and distinctions which are necessary for the students of Latin or of Greek, but the fundamental elements are there, and upon this foundation such further refinements may be imposed as are needed.

Since the purpose of this committee was to present a report on grammatical nomenclature, it may seem at times that they have slightly obscured their purpose and have gone out of their province in attempting to pass upon questions of grammatical theory and pedagogical practise. It is true that the opinions exprest by the committee are such as reasonable grammarians will generally approve, but since it was the task of the committee to provide names for practise and not to govern practise, it might have been an economy of attention if explanations of terms had been given without opinions as to the value of the grammatical phenomena under discussion. It would have been enough to have recommended the terms common and proper as designations for nouns, without the addition that the distinction "be not asked for in the ordinary work of sentence in analysis" (p. 13); or the terms abstract and collection for other characteristics of the noun without qualifications as to the extent to which the distinctions thus designated should be observed in the teaching of grammar; or the terms masculine, feminine and neuter, without the recommendation "that the distinction of gender be not dwelt upon in dealing with English nouns." Doubtless most teachers will agree with the committee that "the first process in grammatical analysis should be to deal with sentences as a whole," but was it really the business of the committee to pass upon this question, or even to raise it for discussion? Certainly the path of those seeking for harmony in grammatical nomenclature is strewn with enough thorns without borrowing any from the inexhaustible supply of grammatical theory.

As to the terms themselves, one can not do more than echo the approval of the various learned associations which fathered this committee and its report and express the hope that the recommendations of the report will be put into practical use. Even if the terms recommended were not well chosen, uniformity of practise would still be an economy in the end. But they are well chosen, and where a reasonable difference of opinion exists, it will usually be found that it is a case of six of one and half dozen of the other. Some of the terminology which may arrest attention is the recommendation for English of the case-names common and genitive for what are now perhaps the more usual terms, nominative, possessive and objective. Instead of objective, the committee prefers accusative. The term dative is also recommended for the case of the indirect object. Adjectives are divided into two classes, called descriptive and limiting, a distinction which the illustrations cited make clear, tho logically of course "white" in a "white horse" is no less a limiting word in function than "your" in "your horse." The verb in its main classifications is designated as transitive, complete, and linking. The time-honored intransitive and copulative go by the board. In the conjugation of the verb, the terms regular and irregular are preferred, the historical classification weak and strong being rejected because the strong verbs in modern English form so small a class.

Tho in general the committee has been conservative in the recommendation of terms, it has not been blindly so. Terms which have been accepted in general usage, even tho in themselves meaningless to the student, have been allowed to stand, but where "really clarifying terms can easily be substituted," the committee has felt no hesitation in making the substitution. The only section of the report which may raise the question whether or not the committee has been too grammatically ingenious is the one dealing with the difficult object of mood. The reviewer trembles to think what the average teacher or student of English will make of these distinctions of anticipation, volition, wish, indirectness, obligation of propriety, natural likelihood, ideal certainty, less vivid future condition, and then others. They are doubtless all necessary for Greek and Latin, but few teachers of English will have either the patience or the ability to impose them upon their students. But of course it is this section, more than any other part of the report, which emphasizes the fact that English after all is not a completely adequate way of approach to the study of the grammar of all tongues. Even by calling in the aid of "the marked literary style," which in most instances is no style at all except the grammarian's, modern English can not be made to serve as a satisfactory introduction to the moods of Greek or Latin.

The state and public schools of Wisconsin The State Department of Public Instruction of Wisconsin has issued as a biennial report, covering the period 1916–1918, a pamphlet of 216 pages with the title: The State and the Public Schools: Two Years' Progress in Education in Wisconsin. The report, which discusses the details of education in the public schools of the state in its various phases, is under the immediate editorship of Cecile White Flemming, assistant supervisor of educational measurements. The biennium just past, we are reminded in the preface, has been a significant period for the history of educational progress in Wisconsin. "It has been," the author continues, "a time of extraordinary activity, from the smallest one-room school to the university, and for every school worker from the youngest teacher to the state superintendent." The report is not only an interesting and illuminating summarization of school conditions in Wisconsin, as the state superintendent calls it in his letter of transmittal to the governor of the state, but it is an important object lesson of the kind of information that, in the interest of public education, should be given to the public of the ends and aims of educational organization in a particular environment. A report as carefully made as this would also be for any state or city a valuable record of present conditions that should readily serve to point the direction of future development.

The aims and methods of science teaching

The aims and methods of science are best portrayed in the lives and labors of those masters of science who have lived since the time of Galileo, notably Pasteur and Faraday. These aims and methods are now so generally approved and applied by the teachers of all subjects that the "scientific" method no longer distinguishes the science work from other work in the schools. Science teaching, if it follows the examples of Pasteur, Faraday, etc., may not justly be differentiated from other subjects as materialistic or lacking in cultural or humanitarian elements.

The purpose of science teaching in all grades of schools is not chiefly to impart knowledge of subject matter but to train persons in the methods of the masters, which is invariably the project method. This is the method used by intelligent men in achieving their ends, in school or out.

A project is characterized as follows: (1) A desire to understand the meaning and use of some fact, phenomenon, or experience. This leads to questions and problems. (2) A conviction that it is worth while and possible to secure an understanding of the thing in question. This causes one to work with an impelling interest. (3) The gathering from experience, books and experiments of the needed information, and the application of this information to answer the question in hand.

A project, or problem, differs from and is superior to a topic in that (1) a project originates in some question, and not in a logical sequence of ideas as may be found in codified subject matter. In teaching from the so-called "logical" texts one wrongly attempts to induce pupils to accept topics as their own projects. Logical organization of such material as functions in life will be the final result of a protracted study of projects. (2) The project involves the active and motivated participation of the pupil in carrying it out. It does not, therefore, like the topic, lend itself to didactic, formal treatment in which the teacher does all the thinking and the pupil passively absorbs. (3) Projects furnish a basis for the selection of facts according to value or significance, topics furnish no such basis for selection. (4) The project seldom ends in a complete, final or absolutely finished conclusion. It is, therefore, far less likely than is the topic to leave the pupil with the idea that he has heard the last word on the subject. It leaves him open-minded. The project, or problem method of teaching, when well done leaves the pupil with a well-organized mass of useful information plus a method of work which will lead him to continue to acquire more. This entire discussion arises from the fact that the logical, topical method has failed to do just this.

Children and adults alike are endowed by nature with the elements of the scientific spirit. The purpose of science teaching is accomplished most successfully when the science classes merely furnish and shape an environment in which the scientific spirit may grow. Under the direction of a teacher who comprehends the workings of the mind, the project method duplicates the methods of active life and thus prepares the pupil for independent thinking.

The present need of the schools is for a large collection of sample projects, or problems, which may be used in showing teachers in a given community how to devise and utilize projects adapted to different grades of pupils in their own environment. The curriculum is the sum of such projects and must always remain in a state of flux.

A fuller discussion of the project method may be found in the following books and articles:

"Science Teaching by Projects," *School science*, Vol. 15, pp. 225–32; March, 1915.

"General Science and Projects in Science," *Teachers College Record*, N. Y., Vol. 17, pp. 1–21; Jan., 1916.

"General Science and Projects," David Snedden. *School and society*, Vol. 1, pp. 436–441; March 27, 1915.

"Project Teaching," William H. Kilpatrick. *General science quarterly*, Vol. 1, pp. 67–72; Jan., 1917.

"How We Think," by John Dewey.

"Democracy and Education," by John Dewey.

"How to Teach," by Strayer and Norsworthy.

"A Brief Course in the Teaching Process," by George D. Strayer.

See also *Boy scout handbook*, Doubleday Page & Co., and various manuals on Agricultural Education.

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EDUCATIONAL REVIEW

MAY, 1920

I

THE COLLEGE AND THE ECONOMIC SITUATION

The topic is one that is close to the hearts and minds of every college executive. There is no college president who has not spent weary hours figuring on budgets, salaries, shrinkage of endowment funds, and the other usual presidential worries, all of which are influenced by the economic situation, or the high cost of living, as it is more frequently called. To solve these problems, nearly every college in the country is now carrying on a financial campaign, totaling nearly one-third of a billion dollars. College presidents today mention millions with less awe than they used in talking of tens of thousands five years ago; may it be true that as their speech is changed, so likewise has their ability to open pocketbooks.

There would be, I think, a hundred per cent agreement as to the results to the colleges from the high cost of living. The productive value of endowments has shrunk; the cost of operation has mounted sky-high. Colleges must have more money to avoid deficits, and to raise salaries. These *results* of the economic situation are obvious; it may be more profitable to consider the relation of the colleges to the *causes* of the economic situation. Are the American colleges in any slight degree responsible for this situation? Is there any way we can prevent the ill, instead of calling for the doctor? It will be admitted at once that the colleges have little relation to the general causes of the economic situation; these are national and international in scope. There are, however, one or two questions we should ask before making our appeals for aid.

First, are we making our customers, the students, pay their just share of the increased costs? If tuitions have not been raised to a figure that is a fair proportion of the cost, we have no right to appeal for outside aid to cover the resulting deficits. (In this and the following discussion, the college is considered—not the university or the professional school.) In general, the college students should pay one-third to one-half of what their instruction costs. Students should pay, in every sort of institution, every cent that board and room actually cost. Is our college cutting rates educationally, giving its instruction "cheap," at a mere fraction of its cost? If this is the situation, a hard-headed business man will rightly hesitate to make up the resulting deficit. The principle in the privately endowed college, supported by its alumni, its friends, or its denomination, is entirely different from the principle in the state university, where the support comes by public taxation, and the tuition is merely nominal. What has just been said regarding a fair tuition rate and dormitory rates that fully cover the expense, does not mean that there should be no place for the poor, deserving student who can not pay the rates we have announced. We should provide scholarship aid for him, large enough to cover the right proportion of the tuition and other charges which are made for rich and poor alike. Indeed, we should do much more than many of us do now, for the able boy or girl of brains and grit; to provide only "jobs" for them is a doubtful solution. To force a boy who has a Phi Beta Kappa brain to wash windows or dishes three or four hours a day, to pay for his education, is not good public policy. The superior boy who needs scholarship aid ought to get enough money to allow him plenty of time to profit fully from his studies. Likewise, the dull, stolid students should usually not be encouraged thru scholarships, to make the fight for a college education; too many of them are trying to do it.

Second, is the college extravagant in its operation or equipment? Extravagance and waste are two of the greatest causes of our present economic problem. No college has a moral right to appeal for more aid if it can not guarantee that it is carefully and economically operated. It is as essential to have the books audited properly as it is to offer freshman Latin. Can we guarantee that all gifts have been used for the purposes intended, that there has been no juggling of figures? Furthermore, what is it costing us to raise our big endowment funds? Are we taking more than 2 per cent to 5 per cent of the gift to pay for the expenses incurred in securing it? Are we preventing overlapping in instruction? Can we show that our college is not guilty of waste, which no business man would permit? Do we keep open-minded for new devices and economics in operation, making every dollar go as far as it can? Do we operate on a budget system, accounting specifically for every item of income and expense, so that we know where we stand, financially, all the time?

Extravagance in college equipment is probably rare. Certain interesting questions may be raised on this point, however. In the dormitories which we are building, how elaborate should be the facilities provided? Should we have rooms with private bath for college students, few—if any—of whom have enjoyed such luxury at home? Should we allow fraternities to erect houses, regardless of cost, amounting sometimes to hundreds of thousands of dollars, and providing club facilities, the like of which most students have never enjoyed and perhaps never will again. The American college of yesterday provided rather stern, severe living facilities; is there danger today of swinging the pendulum too far the other way? Can it be charged that college students learn to evaluate life on the financial basis alone? Are the alumni whom we praise to our students, those who have made big salaries? In this age, when we are all trying to have better facilities than our sister colleges, we may be starting on the road to extravagance.

Third, is there any danger from an unthinking furor for salary raising? What should be the underlying principle for this economic necessity? What would be extravagant in raising college teachers' salaries? To some this question may seem ridiculous. We all agree that teachers should be paid at least enough to be relieved of financial worry. A teacher who has to scheme about how to make both ends meet, or who has to spend hours every day washing dishes, is sadly decreasing his value to his college. Paying him enough is selfishly sound. How far up should we try to put teachers' salaries? Are we justified in trying to get every cent we can to raise salaries? In this matter I believe the colleges, particularly those west of New England, have to face a somewhat different situation from the state universities and the professional schools and the great eastern universities. If a college amounts to anything at all, it gives its faculty certain opportunities of contact with students which the universities can not so fully provide. I trust college teaching will never become a lucrative profession, financially attractive. I hope no one will ever enter it without realizing that some sacrifice will result. A teacher ought always to be worth more than he is paid; if he is paid what he is worth, he is overpaid. Teaching has been an altruistic profession; may it always be so. The real teacher enjoys his work, and part of his compensaation is the enjoyment from what he is doing. The ditch-digger who today, alas! is often paid more than the teacher, digs ditches in order that he may get money and leisure enough for his enjoyment, outside his work. Work which is itself intrinsically a pleasure will never be paid as much as work which is distasteful, or merely routine. Do college presidents have the same fun in their jobs that college teachers have? I sometimes wonder. Perhaps that is why they are paid somewhat more!

Comparing salaries in teaching and in the professions is a popular method of showing the effect of the economic situation on the colleges. There is some doubt what should be the average faculty salary next year. The "Efficient College," described before the Association of American Colleges four years ago, called for an average faculty salary of $2,100; the change in living costs would probably mean that this sum should be at least $3,000. It may be worth while to remember that nine out of ten manufacturers fail to make $3,000; that four out of every five lawyers receive less than $3,000; that fifty per cent of all doctors, architects, mine-owners, and brokers have to be content with an income less than this; thruout the country, only one out of every three hundred and twenty-five people receive $3,000 or over. Until recently $3,000 was the salary of the Assistant Secretary of the Treasury in Washington; some governors receive less than this. In a college town of 26,000 no bank cashier receives over $3,500; only one minister receives as large a salary. The inquiry is perfectly sincere; to what figure are we justified in raising salaries by money that is secured thru appeals in behalf of the underpaid workers; if $2,500 is a large salary in the community, can we logically ask for gifts to raise the average above $3,000?

Every college that is raising salaries faces the problem in different ways. Certain institutions are bringing in new men from outside at much larger salaries than the institution plans to give to the men already on its faculty. The economic justification of this action is: the "market" for able instructors has increased and to bring to your faculty next fall new professors from outside will require larger salaries than are necessary to hold the men you now have. Paying these men low salaries is often justified because the college knows for various reasons—owning their homes, dislike of finding a new location, etc.—their services can be retained at the lower salary. This policy is almost certain to result in a serious feeling of dissatisfaction on the part of those who are paid the lower salaries. One does not have to search far in academic annals to find college administrations that have been gravely embarrassed by such a faculty situation.

From many standpoints the simplest way in which to raise salaries is to do as Oberlin and a number of other colleges have done: make a flat percentage increase of 25 per cent or 50 per cent, or whatever the case may be. This usually raises the scale high enough to obtain able men from outside. If the scale is raised by a figure above 25 per cent, most institutions will find that they are overpaying certain men. That institution may call itself most fortunate, every member of whose faculty is worth 20 per cent to 40 per cent more than his present salary. Nearly every college has some man or woman who is not actually worth more than is now being paid. To increase them in the same proportion as the wholly successful teachers are increased, is to carry out a policy which loses account of the individual. Oftentimes the new salary would bring a superior teacher from outside. To refuse to increase the salaries of some men, frankly because they are not worth more, always means embarrassment to the college president. However, I firmly believe it is our duty to do this; otherwise we will ourselves be extravagant, paying more than such teachers are worth.

Probably the most difficult course to follow, but almost certainly the most succesful in the long run, is to increase the scale as generously as possible, making sure that the upper limits are high enough to enable the institution to attract strong men from outside; new appointees to the faculty to be paid no more than at least a few of the former members of the faculty will receive; the exact amount of increase for each person on the faculty to be decided upon the basis of the service they are rendering the college.

Finally, the economic situation will not be solved until we have more men in the business world with sharpened minds and keen consciences. An educational institution that turns out clever crooks is a liability to progress, not an asset. Business problems and the relations between capital and labor will not be solved by men with keen brains alone; they must have sterling characters, too; ability and willingness to see the other side, to practise the Golden Rule. For this training I believe the Christain college is supreme. I believe the day is at hand when we should assert our claim for the training of noble-minded business men, who will serve their fellow-men, not in the schoolroom or the pulpit, but in the whirl of business life. The Christian college has been for decades the great training school for teaching, preaching, social service, and Christian work here and abroad. State universities, with their tens of thousands of students, have sent out pitifully few leaders in these fields. But the situation has changed; until recently 50 per cent of all Knox graduates went into teaching, permanently or for a year or two; we offered courses to prepare them for service in this field. If 20 per cent of this year's class teaches next year, I shall be surprized. Where are they going? Into business, young women as well as young men. Should we not give them as we do to the teachers, a direct preparation for that work? Few will secure any professional training after their college course is done. If our Christian colleges can adequately prepare business men and women, and can give them some of the sterling character that has been one of the earmarks of the graduate of Christian colleges, we will be striking at the basic causes of the economic situation; we will make our colleges training camps, not for fighters, but for leaders in the great business world of tomorrow.

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II

THE PROBLEM OF THE LIBERAL ARTS COLLEGE

It has taken a full year and more for victors and vanquished alike to awaken to the unwelcome fact that the economic and social changes resulting from the war will be no less radical and extensive than the political changes, and to sense the task imposed upon the new world by these changes. Clemenceau voiced the opinion of all thoughtful men when he said a few days ago that nothing but the steadying and restorative effect of hard, consistent work could save us from further disaster.

This dependence of the welfare of mankind upon plain, old-fashioned, hard labor has brought with it an ominous and unforeseen sequel of the war,—an intense class feeling which seems to originate in the belief of the workingman, or in his formal creed at least, that labor is expected of certain classes only, but that others are to enter into the fruits of this labor. Among workingmen the opinion is rather general that college students belong to the aristocracy of leisure,—that they do not work and are not supposed to work, and that colleges exist primarily for the idle rich.

It is the colleges, called, for want of a better praenomen, liberal arts colleges, which are under especial censure,—for doctors, lawyers, ministers, engineers and chemists fill an evident want, and the purpose of those colleges and schools which have been established to meet the ever-increasing industrial and social needs is evident even to the man on the street.

Our first inclination is to laugh rather indulgently at such evidence of the well-known pride of ignorance, as but a reappearance in somewhat more virulent form of the age-old, "town and gown" antagonism. Under pre-war conditions this attitude might have been safe and perhaps justifiable, but in the present critical time, when the bitterness and extent of class feeling seem so full of consequences for the future and when so much is quite properly expected of the college man, it will be worth while to see whether this feeling has any reasonable basis by examining the present place and function of the most venerable of our collegiate institutions,—the liberal arts college,—with a view of learning from what sources its students are recruited, how much and what sort of work they do in college, and the bearing of this work upon their later careers,—of learning, in other words, whether the college is simply going thru inherited gestures or is promoting real constructive work. For if it is found that admission to college is based upon tests intended solely to determine the competency of the candidate,—that good, consistent work with a definite purpose is done in college, and that such work has a direct bearing upon the later career,—it will be seen that the antagonism and criticism have their source in sentiment rather than in reason.

First, then, do the requirements for admission to liberal arts colleges operate in such a way as to favor any special class—and thus promote class feeling?

An interesting, but not usually emphasized characteristic of tests for admission is that they may, and under certain conditions do, test for social standing as well as for intellectual fitness. The significant relation between the rigidity with which a classical preparation is enforced and the proportion of students prepared in private fitting schools can not escape the notice of anyone who cares to examine the student body of a liberal arts college. It will be found that the more rigidly a college insists upon a training in the classics as a requisite for admission, the more exclusively is its undergraduate body made up of boys whose preparation was gained in the private fitting schools. In one of the larger eastern colleges, where the classical requirement is rather strictly adhered to, nearly eighty per cent of the students come from the private fitting schools. In another eastern college where there is a somewhat more rigid enforcement of this requirement, but seventeen per cent of the students prepared in the public high schools. Results not so dissimilar are found in most, if not all, eastern liberal arts colleges where admission is made dependent upon a rigid test in the ancient classics.

Deplore the condition as we may, it must be evident to anyone sufficiently interested to investigate, that adequate preparation in the ancient languages has become a specialty of the private fitting school. The high school boy, if his school is favorably located, may get this preparation, not to such good advantage as in the private school; but he and his parents, it would appear from the returns, have come to regard a study which serves merely as a test of fitness for admission as a luxury which they can ill afford. Colleges, therefore, which will accept no other proof of fitness in place of a certain proficiency in the ancient languages, must limit their students, in large measure, to sons of the well-to-do.

Do college students work?

As to the amount of work done by the average college student, opinions differ both in the faculty and among students. Certain it is, however, that the scholastic work accomplished by the students does not compare, either as to amount or quality, with that on the playing fields and in all the extra-curriculum competitions, or with that which was seen a couple of years ago in the training camps and Students' Army Training Corps, or with what a man expects to accomplish in his later career. The average student is content to "get by" with a more or less comfortable margin. He quite frankly selects his courses largely by hearsay from the titles in the catalogue, giving preference to those scheduled for the mid-morning hours. No "snap" course is despised, and the esteem in which a student is held by his fellows bears little or no relation to his scholastic standing. There is no attempt on the part of either faculty or student to hide the fact that there is rather great indifference toward scholarship and much drifting. Many graduates who did good, average work in college, do not hesitate to state that they derived greater benefit from their extra-curriculum activities and associations than from those of the classroom. These much-decried activities have, to be sure, preserved some of the most essential elements of a training for a career. The student learns to judge of men and to treat with them, gains the experience of keen competition, learns to bear defeat and to stand up under success, and develops a high sense of right living and of honor.

Another thing which, in the mind of the workingman, places the student in the leisure class, is the number and extent of his holidays. Holidays, recesses, and allowed absences have now grown to such an extent as to divide the calendar year about equally between work days and play days. It is generally conceded that this vacation period, which was originally planned for self-support or study and which was so used by many of the older generation, is not profitably employed by the majority of students pursuing non-professional courses.

If, then, the assumption of the world at large and the admissions of a considerable part of both faculty and students are, in general, correct as to the attitude of the student toward college work and as to the amount and quality of work accomplished in college, the cause and the remedy should be found. The present day is impatient of wasted opportunity and of unemployed capital.

The reason for this want of consistent, hard work in the liberal arts colleges is not far to seek. There can be no good work without interest and no sustained interest without a more or less definite aim. The relation of purpose to interest and of these to work is well known, and these qualities are as essential in college as in any other activity. The aim of all educational reformers from Socrates to Pestalozzi has been to awaken greater interest in the pupil by teaching the traditional subjects in a more interesting and purposeful way, or by teaching subjects more nearly associated with those things which naturally arouse the student's interest. But is not education in itself a sufficient aim? To a few well-favored students under proper encouragement, perhaps, yes; but the requirements for admission do not limit the student body to those who have the desire or will to learn. Culture for culture's sake has little appeal for the mass of students, and it is evidently the purpose of the present-day college to plan for the mass.

In an attempt to learn the relation of courses of study to later career, I have frequently asked students what they proposed to do after graduation. I find that a large proportion of each class, even late in their last year of college, has reached no decision as to a career. Some few have come to a late decision because of some chance opening, or because, after all, a decision must finally be made. Courses have, as a rule, been chosen without regard to their bearing upon present or later interests. In strong contrast is the work of these same students after they enter the professional school. It may be doubted whether their native ability at the end of the college course is much greater than at the beginning, but their work in the medical school or the law school or in whatever professional school it may be, immediately shows the effect of a definite end in view.

The fault for this aimless pursuit of knowledge,—if the term pursuit may be used as descriptive of the efforts of the average student in a cultural college,—does not lie solely with the student. Indifference toward work is accepted by a large part of the faculty as a matter of course. It seems better to sacrifice results rather than the traditional non-utilitarian ideals. Subjects of study are, moreover, chopped up into three-hour units for convenience in handling, and arranged under departments with a view to ease in administration. Courses and schedules are constructed with a view to mass production rather than individual attention and interest, and the work based upon these schedules and courses is interpreted in terms of minimum requirements rather than maximum opportunities. Much is heard in the discussions of a faculty of the liberal arts concerning the maintenance of educational standards in the abstract, as if these were an entity in themselves quite unrelated to student interest and student work; but one hears little concerning ways and means of awakening and holding the interest of the student and of bringing his study into closer relation to his later career.

Time was, and that not so distant, when the cultural college was quite definitely and avowedly utilitarian in its purpose. When the political and social structure of the country was less complex, college, with its simple, restricted course, chiefly classical, offered what was, without question, the best fitting school for service and leadership in nearly every field of activity. The classics, moral and natural philosophy, mathematics, and a few accessories, were an essential preparation for the lawyer, doctor, minister, and schoolmaster, who were, in fact as well as in theory, the real leaders and honorati of village or city. There was, moreover, no better or more direct preparation for the learned professions than that gained thru a thoro course in the language and learning of the Ancients. In that primitive time a little further reading and study gained for the college graduate admission to his chosen profession. With the present greatly increased demands of the professions this is no longer possible; but the modern liberal arts college still preserves the ritual of the older college without its purpose or spirit. Subjects of study have been added and extended, but the contact with civic life has been lost.

In the development of educational practise in the United States the liberal arts college has thus been placed in a surprizing and unforeseen position. The schools of technology and science and the professional schools which have sprung up to meet new demands, or old demands in a new way, have gone their several ways in pursuit of their definite aims, but the liberal arts college, refusing to adopt any aim less general than a so-called, well-rounded liberal education, is confronted with the task of trying to train students whose aim is equally general. Most of these students ultimately enter that activity, or those numerous activities, which in this country go under the name of business. Tho its clientele and its function have changed, and tho it has, for the great mass of its students, become a preparatory course for business, its method of approach and plan of action remain practically unchanged.

The high school and preparatory school, as well as the technical and professional school, have encroached upon the field which was formerly in undisputed possession of the college. A considerable portion of the work formerly done in college is now covered in preparatory school. The American boy comes to college at about nineteen years of age, but a few months older than the foreign boy when he graduates from the Lycée or Gymnasium, ready to begin special study. Upon entering college the American boy has completed a course of general study, perhaps less extensive and intensive than the foreign boy, but essentially of the same character. The latter, however, at the completion of his course in the Lycée or Gymnasium, is considered ready for specializing with a view to a career. Our boy continues for three or four years longer a general course of study which does not differ essentially from that of the high school or fitting school. It is worthy of note in this connection that the records of every dean's office show that the younger half of each college class excels the older half both in scholarship and in morale.

Our colleges have taken over much of the tradition and practise of the English colleges and large public schools,—of Eton and Harrow and of Oxford and Cambridge,—with unquestioned advantage to our past development, but of doubtful profit for the present and future. The English schools and colleges have continued to be a good, if not the best, preparation for a public career in Great Britain much longer than have our own colleges for a similar career in America; for the English view of democracy, or at least its practise, differs widely from our own in that most of the high offices in state and in civil service, as well as in the church and the university, have there continued, until recent years, to be filled by men trained in the great public schools and at the universities. A list of the Balliol men of Jowett's time reads much like a "Who's Who in England." Our liberal arts colleges have long since lost this close relation to church and state.

What, then, are the remedies for these short-comings?

It is absurd to consider revolutionary changes in an institution whose former graduates have had such a large share in the notable achievements of the country, and whose recent graduates have stood so well the test of war and the more disheartening period of reconstruction. However absolute be the democracy which may ultimately result in this country, some place and function must remain for the cultural college and some rights to the sons of the well-to-do. A democracy which levels only downward socially and educationally is headed for anarchy, and a representative government without educated leaders can not long survive. So, on the other hand, is a liberal arts college not giving the best service to the present day and generation if it regards its past record as a canon by which it may judge present doctrine and practise, rather than as an obligation to future achievement.

In a liberal arts college the impulse to change must, unfortunately, come from without. The ruling elders of the faculty are as loyal to the ancient cause as a Scot to the House of Stuart, and the younger members of the faculty soon learn that it is not etiquette to advocate new ways and means. Faculty discussions frequently, if not usually, revolve about the relative merits of the study of the classics as compared with later disciplines. Such discussions are, however, always inconclusive and futile, for educational convictions, however arrived at, are as immutable as religious convictions and are but little affected by argumentation and reasoning.

Some changes, both in the selection of students and in the methods of instructing them, are demanded by present conditions. In these changes, moreover, the need of the student must be the point of departure and the guiding principle, for the college exists in the last instance for the student.

Admission to college must not rest upon a test act which tends to promote that disquieting affinity of the liberal arts colleges and the sons of the well-to-do. There is a wide and radical difference between a prerequisite essential to the work of freshman year and a prerequisite based upon faculty legislation. In most college faculties the acquaintance with the work of secondary schools is of necessity based upon second-hand information or a rather limited, and often ancient, personal experience. However, much may be said of the advantages of classical study, it must be acknowledged that the study of Latin in preparatory schools does not necessarily imply scholarship. In fact, the insistence upon four years of preparatory study in this subject as an absolute prerequisite tends to lower the scholarship standards for admission since it limits largely the number from which recruits may be drawn. We find in this connection a rather perplexing anomaly,—the high school boys, who in general pass poorer entrance examinations than those from the private fitting schools, are, in college, as a rule, more successful scholastically.

No form of examination or of certificate will determine the thing most needful for the college examiner to know, that is, whether the candidate for admission is sufficiently desirous of an education to pay the price in work. An examination, however, which tests primarily as to subjects of study rather than scholarship and industry, does not make for enlightenment upon this important point.

The examinations for admission should test the candidate as to his attainments and industry in the four disciplines which form the necessary basis of preparatory study,—language and literature, history, science, and mathematics,—leaving to the preparatory school and the pupil all possible latitude in the choice of subjects and methods within these fields. This measure would promote a cooperation of the high school and college which has been difficult if not impossible under the past régime and would enable the college to select its students from a much larger and more representative body of candidates. The closer correlation of the work of high school and of colleges is of vital importance in the educational development of the future,— more vital for the college than for the high school,— but this relation can not be established or maintained unless the college is willing to accept excellence in a comprehensive and substantial high school course of preparatory study as evidence of fitness for college work. Far from lowering the standard of admission,—a charge brought indiscriminately against every modification of the requirements, —it can not but have the opposite tendency since it would enlarge and increase the classes from which recruits might be drawn.

The war and what has followed it have shown the necessity of making a college education more available to those who want and need it. A recruiting of all educational resources now seems necessary. Colleges ought not to wait for the draft. In France, as well as in England, commissions are at work devising plans for making the privileges and advantages of a college education available to larger classes. This can be accomplished in America without loss to the university and with great gain to the country if the tests for admission to colleges are changed back to their original and only proper function and become a real means of judging of the fitness of a candidate to profit by what the college has to offer.

This revision of the requirements for admission must be accompanied by a revamping of the elective system.

The usual arrangement of liberal arts courses at present, whereby numerous prescriptions and restrictions bring about the desired "distribution" at the beginning of the student's course and some "concentration" toward the end, is probably an improvement upon the free elective system. In theory it is defensible, perhaps, based as it is upon the assumption that the admission tests have eliminated all who are unfit, that the student is desirous of getting the best he can out of college, and that he will elect his courses wisely even tho he have no special end in view. The results under this plan make one doubt, however, whether it produces work less aimless and less indifferent than under the plan which it supplanted. Under both plans subjects of study—not courses—are the important and determining units,—the trees rather than the forest. The machinery of scheduling and delivering these units has assumed Frankenstein proportions and behavior. It is no uncommon experience for a student, his alumnus father, and the deus ex machina, the dean, to struggle in vain to induce the monster to deliver the selected group of units.

The liberal arts college can not regain its former rank and position of usefulness until its courses show a definiteness of purpose, and produce a degree of interest comparable to those of professional schools. It will continue to serve the aimless unless it so adapts its courses of study to the requirements of the student that he and his prospective employer or superior, as well as the faculty, may see and understand the benefits of a liberal arts course and its relation to his later work. The present ill-sorted grouping of "majors" and "minors," beginning with "distribution" and ending with "concentration," must give way to fixed group-courses leading toward a definite interest, activity or career,—for experience has shown that a student, who has no definite goal in view, is as little able to combine "majors" and "minors" wisely as he was to elect single subjects of study. Three or four further years of rather aimless general study added to that of the preparatory school does not and can not bring commensurate results.

Such courses should be arranged by the faculty with an eye single to the interests of the student and not to those of any department of study or administration. It ought not to be required of each student that he experiment in a field where he has little knowledge and no experience. A review of the successes and mistakes of college life, and an examination of the careers and professions which college men enter, would indicate the general character of the group-courses necessary, and if most students of the liberal arts college have no aim, at least in the early part of the course, much will be gained by assuming an aim for those who have none.

Each group course should have something of literature, history, economics, natural science, and philosophy, and perhaps some other subjects, but the important characteristics should be some great underlying motive. If Latin or any similar subject can be taught in such a way as to hold the interest of the average student and to have some meaning for his later life, its place in the curriculum of the liberal arts college is secure. In like manner the right of science to a place in even a utilitarian course will not remain undisputed unless it be taught in such a way as to give the breadth of view which comes from a proper study of the humanities.

These courses should begin not later than the end of freshman year. They should be clearly defined in purpose and scope, and be numerous enough to meet the requirements of all reasonable interests and careers, and general enough to fulfil the most liberal ideals of a liberal arts college. The degree of Bachelor of Arts would then signify, as it once did, that the recipient had completed a substantial, progressive course of study. The establishment of junior colleges and of combined courses indicates an encouraging attempt on the part of many colleges to break with the pharisaical past and to make this degree more significant.

The American college student is frequently, and no doubt sometimes unjustly, charged with mental slouchiness and inaccuracy in scholarship. If this does exist to a disturbing degree its source can be no other than the indifference which comes from purposeless study. The search is often made for the one or more years lost in the American school or college, but the investigation can not go far wrong in fixing upon the aimlessness of our courses as an important factor.

The revision of the tests for admission and the establishment of substantial, progressive, group courses will accomplish much, but not all that is required of the present-day college.

Business men and educators are agreed that character is the chief asset in trade or in successful living. Our greatest banker stated as the results of long experience that character was the most valuable collateral, even in the business world. Excessive leisure and aimless study do not, however, make for character. Education is, after all, a process, and has much less to do with schedules, courses of study, majors and minors, than might be inferred from catalogs and the usual educational procedure. Subjects of study are of little import as compared with the personality of the teacher. It matters little whether a Harper teaches Hebrew and a Sumner economics, or what courses are given by a Mark Hopkins, Francis Wayland, or James B. Angell. Under such teachers every subject has its meaning, and its bearing upon any later career. Any system, however faulty, would, under such teachers, produce results.

Colleges and college men must be respected and trusted by those classes into whose hands a democracy like ours places such great powers of determination. We must then convince ourselves and show them that the courses pursued by our cultural students and the work done by them produce results, and that the liberal arts courses require consistent, hard work and lead with some directness and purpose to later pursuits.

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III

EDUCATION FOR DEMOCRACY

The writer is a teacher of Latin. It will therefore be assumed that he will base this paper on the fundamental thesis that the finest training for democracy is the study of Latin. He disclaims any such purpose. He has made it his unvarying rule in over a quarter century of teaching never to advise, much less urge, any student to take work in his department. Such a course has seemed too much like beggary. This paper, therefore, is not written primarily to support the claims of the classics. Nor is it any attempt to belittle the value of science. I am too conscious of those values to have any desire to do that. Indeed, I have for some time been coming to the conclusion, shared by some scientific men I have talked with, that the old struggle between the humanities and science is and ought to be a thing of the past. We have too great a common enemy to quarrel among ourselves, the enemy of ignorance, of laziness, of superficiality. It is rather the sincere desire of this paper to examine in a modest way the nature and defects of our democracy and to consider how education can influence them.

What is a democracy? Not what are the bones, the structure, the form of democracy, which is all too frequently solely what we get from the study of civics, but what are its principles, the life, the soul that makes the structure of any use? I believe it is possible to answer this question better than it was four years ago. The war has wonderfully clarified our vision. We see more clearly the common elements of the great world democracies and less the external differences.

It is manifestly impossible to enumerate all the elements, even the essentials of so complex a structure as a democracy, but, as I have thought it over, four characteristics have suggested themselves as indispensable. First, a democracy must be, in Lincoln's apt phrase, "a government of, for, and by the people," not excluding the common man, as the autocrat would, nor excluding the educated man, as the Bolshevist would. It means distributed power. Second, a democracy must secure freedom by intelligent self-restraint and self-surrender. It can not be merely selfish and succeed. It does not stress overmuch the idea of loss of sovereignty when the good of the world is at stake. Third, a democracy means the responsibility of the individual. In an autocracy, a paternalistic form of government, the ordinary man needs no initiative, needs hardly think; that is the business of the governing classes. If the democracy is to succeed, the individual must bear a burden of responsibility commensurate with his power. And finally, a democracy means work, productiveness of some sort. In all the hive of democracy, there is no place for the drone. These things need no discussion. They are axiomatic. Without distributed powers, without freedom thru intelligent self-restraint, without individual responsibility, and without work, no democracy can stand. These qualities are essential.

Now these characteristics do not grow spontaneously. Men like to rule others. Men have to learn by hard lessons to practise self-restraint. We do not take to responsibility, and we do not like to work. These fundamentals of a democracy have to be learned, and mankind has spent some thousands of very troublous years learning the rudiments. Fortunately, we are beginning to see what we are aiming at. Education for democracy, then, may rightly be termed that procedure which will best produce these qualities of restraint, industry, and unselfish interest in the common good.

But what are the characteristics which go to make up those who dwell in a successful democracy? Surely he who with anxious heart has felt the public pulse in the last four trying years, who saw our nation in the initial stages of the war trying to find its soul, has become convinced that the prime qualities of men who make up a democracy are judgment, balance and poise. Those who have experienced mob psychology have shuddered at the danger of what we term in picturesque phrase "going off half-cocked." If we can find a type of education that will give us this judgment, we are doing much to establish democratic ways of life. The danger of the democracy is in running to extremes. And he who is most responsible for a democracy's running to extremes is the demagog, either the wild-eyed orator of the soap box, or, equally dangerous, the sleek ultra conservative who hoots down every advanced movement. Autocracy has a simple way of disposing of a demagog. He simply disappears. But we can not do that. The doctrine of a free press and free speech does not distinguish between the free speech that you like and that you do not like. We have only one remedy. We must train those who hear and those who read to judge for themselves between the sane, the logical, the constructive, and the impractical, the destructive, the unjust. It is those who know little of medicine who buy the cure-alls sold by the fakirs on the street corners. Thanks partly to certain campaigns of publicity carried on by some benevolent newspapers and magazines the quack medicine seller has a daily increasing difficulty in disposing of his nostrums. We are learning. It is self-evident that we need the same learning in our national political life. We must know how to distinguish between the real political physician and the dangerous quack, be he waving his arms in Market Square or in the United States Senate.

Now judgment comes from experience. It is not a quality of youth. Political judgment comes from experience in world history and thought. These processes are distressingly slow. It used in my boyhood days to be a favorite conclusive argument against the theory of evolution to ask the question, "Has anybody ever seen a monkey change into a man?" We do not hear that any more. We have learned that the changes in biological evolution are too slow to come within the ken of an individual. But we have not yet fully learned this in history. We have a conviction, or at least our actions indicate this, that we have a new discovery in political philosophy, that democracy is a very modern product. We have not yet learned that democracy is an achievement, not a name. Mr. Bryce has made very clear in his delightful book on South America that the whole continent is covered with democracies, but only in name. They have not yet achieved their freedom. That comes after long and persistent effort. When we have thought of it at all, we have been able to see that the great American democracy did not spring full grown from the head of the gods in 1776 or 1789, but that it is undoubtedly the product of a thousand years of struggle and learning in England. And is that all? Is not Ferrero right when he traces modern democratic movements back to Rome for their inception? Is there not good basis for the magazine article that appeared a few years ago comparing Mr. Roosevelt with Tiberius Gracchus?

Psychology made a great advance when it formulated the idea of a stream of consciousness as distinguished from isolated mental states. Just so we greatly need a clear notion of the stream of history. We need to know that history is a unit and that it can not be broken up unto pieces.

One educational element, then, to produce judgment thru experience is the study of history, and not French history, English history, American history, but history, general history, with most stress on those particular nations that have most affected modern life, Greece, Rome, France, England, Germany. I am thoroly in sympathy with the wide-spread study of general history, just as I am in the new movement in favor of the study of general science before beginning physics, chemistry, and biology.

But judgment is not merely information and experience. Even more it is training in analysis, classification, and interpretation. Now unfortunately, it may be, we have scant means of communicating our thoughts to our fellows except thru language. To combat our demagog, we must use wholly the medium of language. We must be able to analyze what he says, classify it, and discover the fallacy or the trickery. Nothing can produce this better than training in those subjects which are highly organized and in the study of language. Fairy tales are very interesting, even to grown-ups, sometimes. But they only for the moment tickle the imagination. The *Wizard of Oz* would not make a good educational textbook. But when we begin to organize, classify, and interpret the mythologies of nations, as Mr. Frazer has done in that great work, *The Golden Bough*, it becomes at once an educational instrument. The value of chemistry, biology, and the other sciences in education does not lie, I believe, much in their so-called practical nature, but in the fact that they have a classified, an organized body of knowledge, which gives training in the power of logical arrangement and analysis. But they can help little in the interpretation of language. That can come only from language itself. I am convinced that no man can be educated who has not the language sense, that is, who is not able to comprehend the structure and method of language, to see that at best it is an imperfect medium of transmission of thought, that it must be used with care to prevent misinterpretation, that always we must read between the lines to see what is meant as distinguished from what is said.

I once taught beginning Greek. I remember a student who always insisted on using γαρ in sentences like "I did this *for* him," "He started *for* town," as well as in "*For* he could not go." You have all seen that. It is a teacher's usual happening. But the point is, there comes a time when the power of discrimination between the various uses of "for" in English appears. We flatter ourselves that our advanced students are beginning to see that the English "for," sometimes in Latin becomes the dative, sometimes the genitive, sometimes *ad* with the accusative, sometimes *per*, sometimes *enim*, and so on. They are beginning to see that the English word, country, is sometimes *rus*, sometimes *terra*, sometimes *patria*, sometimes *regio*, and that they are not interchangeable. I profoundly believe that the power to make language discriminations of which these are simple types is as valuable an asset as an educated man can have. This logical analysis and control of language means eventually the power to judge accuracy of thought, of statement and conclusion. That is, it is the power to think.

When we can get the study of language combined with a highly organized body of knowledge, as we do in Latin and Greek, far more than in any modern language, we have an unsurpast educational instrument. Have you read what President Faunce says? "Latin still continues to be the most thoroly ordered and synthesized body of knowledge in the modern world, and hence best of all known studies for building an ordered mind." I told some of my students the other day that the constitution of the League of Nations should be written in Latin. I did not say that idly. I am every year coming to be more convinced that for power of really accurate expression, which can not be misunderstood, Latin is far superior to English, French, and surely German.

Let us not be misunderstood. Latin is not the only subject of value in the curriculum. Not the most enthusiastic of us would dream of saying that. There is no hostility to the so-called modern subjects. But the discovery of anesthesia and the X-ray has not made agriculture any the less necessary. Modern chemistry has not displaced mathematics. It takes many types of training to make a trained mind. Our only plea is not to cast aside any one of the essential features of an educational system, because some other essential has come into prominence.

This judgment is best produced, I can not help thinking, by the study of man, as distinguished from the study of things—his thoughts, his mistakes, his ideals, his wrongdoing. The knowledge of things we can, if we must, get from the specialist. The knowledge of man should in a democracy be universal. Where shall we get it? Where in education so well as in literature, the only place where men's minds have been photographed and made permanent? We can not know men merely in the study of language. What is the meaning of the great increase in recent years in the number of students of Spanish? Has anybody heard the claims of Spanish literature? Or is it only that a new era of commerce has sprung up with South America, and we must have Spanish as a means of communication? Now this is perfectly legitimate and by no means to be scorned, but it is education for dollars and in no sense education for judgment. But who can read those odes at the beginning of the third book of Horace on the qualities of the ideal Roman without a thrill of response that makes a better American democrat?

If we would have judgment, then, let us stress history, to give us experience with the race and an appreciation of the unity of world problems; science and language, to give us discrimination and orderly thought; and literature and philosophy, to reveal to us the thoughts and ideals of men of all ages.

But judgment is not enough for a citizen of a democracy. It is a virtue, but a passive one. The war has made clear another great requirement—made it so clear that none may miss it. That is the disciplined acceptance of duty. The war has taught, or should teach, the nation to do what it ought to do. May we not fail to hold this fact in our educational system, for, frankly, our education, in late years, has been largely letting boys not do what they wanted not to do. Our Puritan ancestors had some hard and unlovely characteristics, but their habitual acceptance of the hard tasks of life we may get too far away from. How many of our boys have come back to us from the war and said "I did not know what study meant until I went to the ground school." Our teaching—let us confess it—has been too largely competitive. We like to have many students in our departments. College and school administrations look with favor on the teacher who attracts students. So our work has been getting easier and easier, softer and softer, until we are in danger of making education a very ladylike proceeding.

This has been helped on by two pernicious doctrines, or better, two doctrines not in themselves pernicious, but which have been debased into dangerous uses. These are the doctrine of free electives and that of interest as a basis of teaching. These two good principles misused have both led to the same vicious result, the glorification of laziness.

Nobody wants to go back to the old and hard system of collegiate and school curriculums of a century ago. But to say practically that an utterly untrained student may study what he pleases is just as pernicious as to set a child down to a table loaded with all kinds of sweets and desserts as well as bread, cereals, and meats, and expect him to get a balanced ration. We think mothers crazy who practise the elective system on young children's stomachs. What of schools that do the same things on children's brains? I know the schools say they do not do just that, but I know from observation in the case of many boys in typical high schools that from the beginning of the first year in high school they have been given their cards to make out according to their own sweet will without the slightest supervision or suggestion from those in authority. We all know that most parents do not supervise the selection of subjects of their children. They pay school taxes to have that done for them. The result is, of course, that the boy and girl take easy subjects. The older boys and girls tell them what they are, and few teachers dare to press hard on the grindstone, for they have learned that the death rate in their classes the next year will be dangerously large. When you see, as I have seen, countless boys at about college age suddenly wake up to the desirability of a college education, after only a non-preparatory course in high school, you will become conscious of the tragedy of it. Again I do not want to be misunderstood. I have no quarrel with a manual training, commercial, or any other course, but I do have a quarrel with the system of letting boys take these courses, not because they really need them or want them, but because they are, or the boys think they are, easier.

Now my point is, of course, that soft teaching can not make sturdy men. Provided the thing is worth doing, students ought to do some things they do not want to do. Those of us who have got past school age have learned that life is just one thing after another—in the line of things we do not want to do. Happy are we if we have got a habit of mastery, a determination to get tasks done, even if we do have to miss a school dance or a movie.

Some writer of the last century has given us a fine characterization of education when he tells us that education is that which makes us able to do what we do not want to do when we do not want to do it. That function of education is too great to be lost sight of.

Then there is the matter of interest, which is not far from the same subject. Now no one can go far in psychology without acknowledging the educational value of interest. Everybody sees that it is easier to teach with interest than against it, and that it is the duty of a good teacher to make his subject interesting. But if it means that we are to teach only those subjects that are superficially and immediately interesting, then I flatly avow I do not believe any such dictum, for two reasons: First, all subjects of study offered in our school and college courses are interesting. Some are immediately so, as, for most individuals, nature study and anything that involves physical activity. A normal young person always shows interest in things. Interest in thoughts has to be acquired at a price. Most subjects have a more or less uninteresting crust which has to be broken thru. I must confess to a predilection for the crusty subjects as makers of habits of value. Second, as it is usually presented, the doctrine of interest means the doing of what you want to do. That is an immoral doctrine. In the ethical realm we have to practise restraint on our young people. They may not do what they want to do. Interest, desire, says steal. We must learn not to. If we follow the leading of youthful interest, I fear we shall have curriculums including largely cheap detective fiction, sickly love stories, exciting movies, dances, athletics, vaudeville, and chocolate sundaes. Really valuable interest is, of course, that which can be summoned at will. The infant's attention, which is controlled by interest, is distracted here and there by every stimulus. It is only when we can control our attention by our will that we can really think. Education is, after all, largely for the purpose of training us to will an uninteresting duty.

The main idea is this, that if we are to develop citizens who are to do the work inherent in citizenship—men of control, persistence, mastery, they must not be schooled in the soft methods of whatever they want to do. The man who has always done easy things is inevitably selfish. Wide-spread selfishness is inimical to a democracy. The man who has always been permitted to drop a task as soon as it gets difficult, can not have acquired the habit of endurance. Eternal vigilance, endurance, patience is the price of liberty. Letting our boys train themselves in slouchiness is guaranteeing that as citizens they will be slackers, for sloth and slacker are inevitable comrades.

Let us then require our students to take a certain amount of work that is hard, that requires thought, not for mental discipline, in the older sense, but for moral discipline. Not, of course, merely because it is difficult, but regardless of the fact that it costs hard work. Obviously this will not be popular with students, but the war has shown that the day of the gentleman loafer in college ought to be about over. If the college talk about a gentleman's mark—which means as near as possible to a failure—the quoting of such epigrams as "Never let your studies interfere with your education" and "It is better to have come and loafed than never to have come at all"—if this had been applied to our war activities, our boys would still be on their eastward journey—unless they were coming home in defeat.

The war has taught us another lesson. A man may have judgment and poise and self-mastery; he may conscientiously accept his burden of responsibility, and yet be a good deal of a plodder. Not that plodders are to be scorned. Far from it. But for the divine quality of leadership, for the fire that puts power into man, there must be that stimulation of the imagination which is very hard to denominate in English. It is partly *esprit*, partly what we call *morale*, partly idealism. I know no better term for it than spirituality, not merely the spirituality that connotes religion, tho it includes that. It is rather the high moral sentiment that is called forth by the finest use of the imagination. It is based on informational education, but it is not information. It can not come to its highest without a high degree of rational power, but it is not reason. It is that gift of God that lets man see reality in what common men call the invisible; that lets man reach out beyond himself and apprehend something further on. Do we believe that a democracy is the embodiment of idealism? Then the real democrat, and especially the leader of democrats, must in his education have that which will fire the imagination.

But like most human qualities, the imagination of man is not fixt and immutable. It may run riot. What tragedies in discontent have been caused by over-stimulation of certain elements of the imagination by excess in the wrong kind of fiction! What equal tragedies in unrestrained fanaticism have occurred as the result of a superstimulated but uncontrolled honest imagination—a steam engine with an enormous head of steam but no governor! On the other hand, and equally serious, the imagination may become atrophied. The delightful thrill which comes from the exultant leap of the imagination may be or become an unknown experience. Darwin tells us how the religious appeal was lost to him in his later life much as he wanted to be able to recall it. His religious sense had become atrophied. So it is our task to steer the imagination safely between these two extremes.

What has the war shown us? According to all rules of reason, we have been told again and again, the Germans ought to have won. It was a simple question of mathematics. They had more men at a given time, they had better physical preparation, superior guns, more complete organization. It was no empty boast of the Kaiser that he expected to dine in Paris on Christmas, 1914. He would have done it, or later Verdun would have been taken, or Amiens and the channel ports would have fallen, but for one thing—this very stimulation of the imagination of which we are speaking. We usually call it *morale*. This got greater and greater as it gradually dawned on the world that this was a war for spiritual ends—not money, territory, trade, not even wholly the selfish ambitions of a family dynasty, but a war for the freedom of the human spirit.

Now if we have learned the measureless value of this spiritual quality of *morale*, which is but one phase of what I have termed spirituality, we must by no means underestimate those liberal studies that tend to produce it, which by stimulation of the imagination makes an uplifting appeal to the human spirit, as valuable in peace as in war.

How may this divine faculty be called into action? Why, most simply and directly by those subjects we call the arts, the subjects taught in a college of liberal arts. It is a matter of great regret to me that there has grown up the antithetic statement, arts and sciences, as tho they occupied two different fields, for we must surely not lose sight of the facts that Latin and French and philosophy may equally with chemistry and physics be taught as technical sciences, and that biology and astronomy may as well as history and English be taught as arts subjects.

But it is probably true that the imagination is best stimulated thru the fine arts, music, painting, sculpture, architecture, and especially by the greatest of the fine arts, literature.

The writer remembers well—how could he forget it?—when he first stepped into the main portal of the Cologne cathedral. He looked up into that marvelous maze of Gothic arches that lifted the eye and the soul with it up and up with seemingly no point of lodgment short of the sky. The emotional, the imaginative appeal was tremendous. It was an experience. And it was a like experience at Dresden before the Sistine Madonna. Why was it that men unconsciously uncovered as they sat before this picture? Something there produced spirituality. I stood once in Olympia before the slab showing a female figure partly supporting a burden on the shoulders of Heracles. A young woman in the party said with a flame in her eyes, "I should like to do just that for some great man." These arts, the cathedral, the painting, the sculptured marble, had in every case exalted the human spirit. These are only typical of what may come from literature and history. When Dante uses such an expression as "Thee o'er thyself I crown and mitre," when Horace brilliantly portrays self-sacrificing Regulus joyfully setting out to death for the good of his country, when Shakespeare shows the terrors of remorse in Lady Macbeth's sleep-walking, when the New Testament tells the story of the prodigal son, who can resist the moral appeal, who can help, if he thinks as he reads, being a fitter citizen of his state?

The tendency in education of the last score of years has been to stress the study of things at the expense of the study of thoughts. So it was in Rome. It was not the fading of things, wealth, luxuries, commerce, that brought her to her death, but her fading imagination, her lowered spirituality. What ruined Germany? It was because she was false to that beautiful civilization of thought and music and art of a century ago, and by a wrong-headed education stifled the imaginative qualities that made the real Germany. This tendency toward the materialistic, then, we must resist, if we would keep our national soul alive and vigorous. We must keep alive in the mind of every schoolboy the great ideals which are the heritage from all those who have preceded us. Let us then put in letters of stone over our educational structures this sentence: Where there is no vision the people perish.

To produce these qualities of universality, intelligent self-control, acceptance of duty, spirituality, industry, which is the problem of higher education in this country, we need, I profoundly believe, not to decide between humanities and science, not between history and philosophy, not between ancient and modern language. We must have them all. Our bodies at all times tell us very plainly that they can not live well on one kind of diet. They must have a proper balance of proteids and carbohydrates and fats or suffer from malnutrition. It is harder to diagnose an educational malady, but we are clearly coming to a recognition of the law of balanced ration in education as in human diet. With this we shall produce a healthy mind as we produce a healthy body. As the best way to resist the ills that flesh is heir to, is to have a healthy body with strong powers of resistance, so, if we would avoid the evils incident to democracy, we must by balanced education produce a sound mind with the emotional and rational and moral functions in such good working order that we can resist the demagog, the self seeker, and the indolent.

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IV

TEACHING PSYCHOLOGY VIA LIFE

A beginning class in psychology in one of our universities on their third day was treated to a dissertation on the "medellation of the nerve fibers of the white rat" and was referred to several difficult and involved psycho-medico treatises including a doctor's thesis on this subject.

Needless to say, the members of the class, many of whom were prospective teachers, were as discouraged as the victims of a "gassing" in Flanders. Many of them spent six or seven hours in trying to memorize what they could not understand, and the subject of psychology received a setback for which subsequent teaching furnished no good reason for a change of mind. Yet most of the members of this class were post-adolescents, vibrant with diverse personal psychologies, and it would have been the easiest matter in the world to interest them in the subject and at the same time give them personal help.

Another teacher of psychology with twenty weeks in which to give all the psychology that a class of embryo teachers would have before beginning the real work of teaching, spent fifteen weeks out of the twenty in a study of the "central nervous system." Weeks were spent studying cross sections of the spinal cord and the class knew with accuracy the location of the corpus collosum, the medulla oblongato and the fornix. They did not know the rudiments of the sort of psychology that they needed in their future work with children or in their own living by themselves or with other adults.

These are illustrations of what has been a dominant tendency in the teaching of this subject, yet the study of psychology should be more practical in its applications and results than the study of arithmetic. All behavior has its basis in psychological principles. Every human being in the world lives psychology every minute of his life and meets psychology and manages psychology in every social relationship.

For everyone who studies this subject it should lead to an understanding of himself and of other people.

For the teacher it should lead in addition to a special understanding of child nature, to an appreciation and sympathy for human nature as it is, and to a broad outlook upon its possibilities. Instead of this a student too often emerges from a study of psychology with no usable asset and with only a "credit" in the subject to pay him for the time expended.

This is not the fault of the subject but the fault of its teachers. They have been abstract and indirect where they should, and might easily, have been concrete and direct. They have been led by their own interests instead of by the needs and understandings of their pupils. They have emphasized words instead of people.

Only by closely connecting psychology with life and its practical value, can a teacher make a class in this subject worth while. A mere study of a text may end in a knowledge of words, but it can not end in a knowledge of self or of other people. To function as a practical subject every topic must begin or end in the concrete and lead to or from principles. Too often a study of psychology begins in principles and ends in principles with no illumination from the concrete going or coming.

The psychology of habit is commonly studied in an elementary psychology class. This problem is such an everyday one that practical application is easy. Yet pupils frequently finish it with no clearer ideas than when they began and with neither help to themselves nor a basis for helping others.

The members of one class in teacher-training psychology began a study of habit by going into the training school to make observations of habit-fixing exercises. Several groups observed different instructors teaching the multiplication tables. Spelling, writing and other lessons were also observed. Each group carried with it the questions, "What is the teacher trying to do?" "How is she doing it?" "What amount of success is she meeting?" "If the teacher is successful, why is this so?" "If she is unsuccessful, why is this so?"

When this class assembled to report upon its observations, all were enthusiastic and anxious to tell what they had seen. In the course of the discussion the principles included in a study of habit formation were developed easily and in understandable language. This was followed by other assignments in observation in which the students started with the principles which they themselves had developed from earlier observations and looked for concrete illustrations.

Students went back into their own childhood and tried to find the methods thru which habits were set up in their own cases and influences which determined the specific impulse that became a habit rather than some other impulse. Breaking up bad habits was also considered in the light of their own experience and in the light of observations in the training school.

Bad habits which pupils in the training school were forming were also observed, for example, posture, incorrect English and faulty pronunciation, and the danger to the child in permitting these habits to become fixt was noted. During the consideration of these points the class never for a moment considered the subject a difficult one, and never lost interest in principles.

When the subject was well understood in its practical phases, students were directed to find in their texts the principles that corresponded to the ones they had discovered and also to be ready to illustrate from their observation and experience each point in the discussion of habits outlined in the text. When approached in this way, the text had no terrors for the class and helped them to make more certain their own conclusions and to put them into better language.

A study of memory was carried on in the same way.

Thru observations in the training school and thru examination of their own experiences pupils determined the best ways for setting up memory habits. What types of experience were most easily remembered by the group as a whole and what types of experience were remembered most easily by individuals were observed and principles formulated. Also students discovered in what lines individual memories were weak and the best methods for improving along these lines. In fact this point and others along lines of individual study and progress were reported upon and talked over frequently, so that during the progress of the class many of its members had most satisfactory improvement along lines where before they had been weak.

In another assignment each student was asked to analyze his own methods of study. Methods thru which results were most quickly obtained, methods that were most apt to result in a long retention, reasons for waste of time, and the psychology of procrastination, were studied by each student with himself as the illustrating subject. Out of this, each student outlined the best methods for his own study and drew up a plan for his day's living. Needless to say, "habit," "memory," and "disturbing factors" had clear meanings to these students. Better than this, a number exprest themselves as being vastly benefited thru changes in their personal habits as a result of this study.

Thru this personal study of best methods for learning, dominant mental types came to be considered. Tests were given to the class that helped each one to determine whether he was peculiarly "ear-minded," "eye-minded" or "motor-minded," and under what conditions peculiar stimulations came to him with most emphasis. In this way individuals in the class discovered their own mental characteristics and neural lines, if any, that needed development.

Following this each student tested several children along these and other lines. In these tests discoveries were made respecting a number of children in the training school that had not previously been realized. For example, an eight-year old boy who was regarded as uninterested in his work and of ordinary intellectuality was discovered to be entirely out of tune with the usual methods employed in the primary grade. At this period most children are intensely motor and learning by doing is prominent in all their work. In the case of this child it was learned that the ordinary methods for teaching children of his age did not apply. In fact such devices were uninteresting to him. He did not think in terms of activity but in terms of qualities. The word ice when put to him brought the thought of blueness, smoothness, coldness, while in most children of his age skating and sliding were the first associations. Water to him set up no immediate association of swimming, tho he could swim, but of coolness and wetness.

Another method thru which psychology was made real to this class was thru a psychological diary which each person in the class kept. Each day a description of something done or thought of was written in this diary with its psychological explanation. At the close of each week these diaries were handed to the teacher, with whom they were considered confidential material. In addition to the close attention to his own mental processes which each student had to give in order to write this diary the teacher was often able to give peculiar help to individual students and frequently a diary contained specific questions asking the instructor's opinion or advice.

A study of the will is frequently a wasteful period in psychology classes. This class, first of all, studied themselves and noted where their wills had failed to act. Also they talked with pupils in the training school who, as their observation showed them, were failing to do the right thing. Both in their own cases and in the cases of most of these children they found the *intent* all right but the *acts* all wrong. As one student expressed it, "I know now what people mean, when they say 'He means all right.' They mean that he thinks straight enough, but somehow he falls down on doing it." Naturally "Why people fall down on doing it" was the next step. There again the study was based on observation.

These are but types of the entire work of this class which included a consideration of the psychology of the parent who comes to "see about" his child and the psychology of the teacher who meets this parent.

War psychology is an opportunity of the present. The instinct of self-preservation, love of country, loyalty, those impulses which have been taken advantage of in the training of the German people, habit vs. intellectual consideration in its effect upon people and numerous other psychological illustrations easily present themselves. As has been said, no other subject is richer in the practicability of its returns than is psychology if properly taught. We urge that arithmetic, geography, reading and all the other subjects of study be tied up with our national problems. Now is the time for teachers of psychology to help their country by following like progressive methods.

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V

THE S. A. T. C. FROM THE MILITARY VIEWPOINT

The Students' Army Training Corps, which was organized October 1, 1918, in order to utilize the resources of the colleges in the training of officers, past out of existence with the discharge of the soldiers enroled in December, 1918. In all probability the disbanding of no other organization was so great a source of pleasure to the individuals associated with it. The students celebrated the passing of a *régime* which had put the ban upon fraternities, class rivalries and innocent deviltries commonly found on the college campus, as well as upon college activities so dear to the heart of every undergraduate; the army officers chafed under the delays of demobilization, because, having been denied the privilege of fighting, they desired to get out of the army and forget their military experiences; the faculties rejoiced because of the end of the necessity for sharing their authority with military officers and for teaching youths who did not wish to be instructed.

"It is over, and I come from a tired, a very tired, college," President Alexander Meikeljohn, of Amherst College, is reported to have said in discussing the Students' Army Training Corps. A leading daily newspaper[1] declared editorially that the S. A. T. C. was a fizzle. Conception was good enough, but execution could hardly have been worse.

Probably no major attempt at educational innovation within the last half century has met with such unanimity of criticism. Many educators have declared that the plan never could have worked, and even those who had faith in the system of combined military and collegiate training merely content themselves with pointing out that the scheme did not have a fair chance to prove whether or not it would be successful. They say that it was only after the influenza epidemic had passed and before the signing of the armistice that the S. A. T. C. units were working under conditions which approached normal; even that period was partly occupied with the problems of organization. The system was on trial for only two or three weeks.

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[1] *Boston Transcript*, June 16, 1918.

The criticism is due probably more to a lack of understanding of the purposes of the organization than to any other fact. The critics have failed to recognize that the S. A. T. C. was not an organization primarily to keep the colleges going, but it was an important part of the United States Army, one of the agencies created by the General Staff to hasten the end of the war. It was in no sense an experiment in education to determine whether military and collegiate training could be combined. The times were too critical for that. The War Department was bent on winning the war, and winning with the least practicable delay.

What was the Students' Army Training Corps but a part of the citizen army of the United States which was summoned to the colors, and hurried across the seas as the weight in man power which would—and did—turn the scales of victory toward the Allies and bring the war to a speedy close? Under that system every college having a Students' Army Training Corps unit became a military post. Every student inducted into the corps became in every sense of the word a soldier in the army of the United States—on a status resembling special duty—but a soldier nevertheless. College professors were transformed, so far as their classes were composed of soldiers, into civilian instructors in the army. The War Department, thru the committee on education and special training, was in full charge of the training. The regulations sent out by the committee had to be obeyed alike by the military officers in charge of the units and by the faculties and governing boards of the institutions. The committee did not take advantage of its position. It desired to work in closest harmony with the authorities of the educational institutions, and at all times urged close cooperation between them and the military officers in order that the training of the students for the army should progress without friction. The conditions demanded that the training should be highly intensive and that the men should, within a limited time, be given as much training, both military and collegiate, as possible.

The object of the Students' Army Training Corps as set forth in the regulations adopted for the establishment, administration and maintenance of the corps was to utilize effectively the plant, equipment and organization of the colleges for selecting and training officer-candidates and technical experts for service in the existing emergency.

Limited use of the college plant had been made earlier in the war in the vocational training of soldiers. In the spring of 1918, the government found that the available supply of trained auto mechanics, truck drivers, electricians, welders, carpenters, sheet metal workers and members of practically all skilled trades was far below the military demands, and that the taking of many more of these men out of their civilian employment would seriously cripple many industries busily engaged in supplying munitions and war materials. One hundred thousand trained men were needed by October 1, 1918. The colleges had plenty of equipment for teaching vocational work, many instructors and few students. Practically every college having an engineering department was asked to assist in training soldiers for highly skilled trades. The response was excellent. Many leading colleges and universities turned some of their vacant buildings into barracks, their athletic grounds into drill fields and their lecture rooms into workshops. Additional equipment was secured and additional instructors were employed when necessary, and the colleges bent their efforts to turning out in a short time men who possessed theoretical knowledge and practical training in trades valuable in our highly specialized army. One hundred forty detachments with an aggregate strength of 34,000 were in existence by June 30th.

Since these training detachments were the forerunners of the Students' Army Training Corps, the experience of the colleges with them should be of interest. As in the later collegiate units, the men were selected partly on the basis of education, fully inducted into the army and given a course of training in which lectures and shop instruction were combined with military drill. Military instruction, discipline and administration were in charge of army officers who had been detached from their organizations and assigned to the colleges. The courses were intensive, practically all the time of the men being occupied from daybreak until 5 P. M. The soldier in one of these detachments was in no wise different from the man who went directly to a large training camp and joined a depot brigade. In the latter case, the soldier was assigned to an army organization after an intensive training in the rudiments of military drill; in the former case he joined his organization after two months of intensive training in military drill and vocational instruction.

The training detachments were extremely successful. Practically all the men who completed the courses in the colleges were sent to depots where they received their overseas equipment and were embarked with the least practicable delay. The soldiers were well trained. The relations between the military and the academic authorities were in practically all cases cordial, and there was established an *esprit de corps* in which each vied with the other in an effort to make the detachments successful and to supply men for the army with the best possible training for the work they were to do. The efficiency of the training detachment seems never to have been called into question by the collegiate authorities; indeed the detachments were regarded as an inspiration to the academic community.[1]

Just as the creation of the vocational detachments was the result of the need for men trained in technical trades, so the Students' Army Training Corps was created to fill the demand for men suitable to be trained as officers and for specialists along technical lines. If anything, the demand for men which brought the latter organization into existence was greater, the necessity was more urgent, and the failure of the War Department to supply officers was fraught with greater peril. From the beginning of the war there had been a great and increasing demand for more and better trained officers. This demand was met at first by promoting officers of the regular army to higher grades, by commissioning enlisted men and by calling to active service the few officers on the reserve list. A campaign was begun to secure officer material from civilian life, and camps were established in all parts of the United States for the training of civilian applicants. After the selective service act had gone into effect the War Department ruled that only men enlisted in the army were eligible to attend officers' training schools. These schools kept turning out second lieutenants until the signing of the armistice.

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[1] Parke R. Kolbe, *The colleges in war time and after*, page 68.

Among the temporary officers of the army it was noticed that a great proportion were college bred. Not only was the number of college-trained officers very great, but also the proportion of successful officers who had been in colleges was much higher. The soldier who is commissioned from the ranks seems to lack the dash and initiative so necessary to success, and which is possessed in marked degree by the college man. In recognition of this fact the War Department issued a memorandum on May 6, 1918, which provided for the establishment of military training units in all colleges enroling 100 or more able-bodied students, 18 years of age or over. Under this plan enlistments were to be entirely voluntary. The student soldiers were subject to call at any time, but there was a definite promise that it would be the policy of the government not to call men into active service until they had reached the age of 21 unless urgent military necessity compelled an earlier call. The plan was advanced in order to develop the military asset of the large body of young men in the colleges and to prevent the wasteful depletion caused by the indiscriminate volunteering of students before they had completed their college training or had, at least, secured sufficient training to enable them to fill their proper places in the army. By this plan it was hoped that a reserve of high-grade officer material would be available.

The plans of the War Department were changed late in the summer of 1918 by the emergence of a new factor in the situation. The extension of the draft ages so as to include men from 18 to 45 years of age made necessary at once a further addition to our already overgrown army, with the consequent demand for officers in sufficient numbers to train and command the new increments. Thousands of additional officers were needed. The government in its search for officer material had depleted the country. The General Staff determined to secure officers from the colleges as soon as the wealth of material there could be sufficiently developed to make it available. In order that deferred classification should not be enjoyed by college men, and to prevent the almost total depletion of the colleges it was necessary to devise some plan by which the college men should stay in school and at the same time be members of the military organization. The emergency was met by the establishment of the Students' Army Training Corps. If it had not been created it is probable that most of the students already in the colleges would have enlisted at the first opportunity or would have remained away from their classes, not wishing to go to the expense of a college training which might be interrupted at any time with loss of credits and time. The colleges would have been practically empty and the equipment, the organization and the highly trained experts on the faculties would have been idle, or would have been used in fields where their effect would have been felt to less advantage than in the training of young men.

The new organization was placed under the committee on education and special training which had successfully dealt with the colleges in the administration of the vocational detachments. The interval between the passage of the act extending the draft ages both downward and upward and the opening of the colleges for the year's work was extremely short and did not allow much time for the committee to perfect its plans for the induction, administration and instruction of the corps. The work to be done involved the preparation of instructions, the securing of officers and non-commissioned officers to instruct the student-soldiers, the requisition of supplies for 150,000 men at widely scattered points, the making of contracts with educational institutions, the establishment of a system of district inspection to correlate the work at the different institutions and other matters, besides answering thousands of questions coming up continually from commanding officers and heads of institutions as to matters peculiar to their own units. Added to this work it must be remembered that the committee was in direct charge of the vocational training units, contracts for which had to be renewed, and the administration to be kept up all thru the period of planning for the collegiate section. The problem which the committee faced was a tremendous one. In a little over a month it had to create an organization greater than the regular army was at the beginning of the war. That the work was done as successfully as it was is one of the decidedly great achievements of the American army in the war.

The collegiate authorities also had little time to prepare for changes in the courses of instruction, for housing the men near the campus, and for numerous other matters which it was necessary to accomplish before the induction of the men was begun. Not the least of these difficulties was the reception of an unusually large number of students from preparatory schools under a modification in the requirements of practically every college in the country.

Under ordinary conditions it was unavoidable that there would be delays and difficulties to be overcome; and the extent of the difficulties just enumerated was apparent to both college and military authorities. There were also unforeseen difficulties which have not been fully taken into account, and which are largely responsible for the present feeling toward the S. A. T. C. Critics would be less harsh if they realized the difficulties overcome by the committee in Washington and the military officers stationed at the different colleges.

The chief troubles of the S. A. T. C. were the incomplete arrangements made for the units both by the War Department and the colleges, the delays in induction, the caliber of the students enroled, the confusion attending the demobilization of the corps, the almost complete absence of experienced officers to assist the commanding officers, the lack of non-commissioned officers with previous training, the terrible epidemic of influenza, and, last and greatest of all, the failure of the commanding officers and the heads of the institutions and the members of faculties to carry on their work harmoniously.

The date for the mobilization of the S. A. T. C. was set as October 1, in order that the confusion of registration for collegiate work might be overcome previously. As a matter of fact October first found both the colleges and the government still unprepared for the reception of the men. The number of students actually in school prior to the first of October was not as great as it should have been, and the work of classes was in many cases interrupted by late registration and by an appalling list of daily absences. The quarters which were to have been supplied for the students were in some instances not completed. At one college the barracks were constructed on a fill which had never been seeded to grass. There were no roads thru the cantonment, no walks, not even cinder paths. The whole area became a bog after every rain. It was necessary for the commanding officer to detail several hundred men the first day or two to construct a road in order that coal might be supplied to the barracks. The whole area had to be filled with cinders, and it was necessary to detail some of the men to do the work when their schedules called for either drill or study. The interruptions in the training should not have occurred, but if the barracks were to be heated and if the men were to live in comfort, it was absolutely necessary that the work should be done. In some other units it was necessary to detail men to aid the carpenters in completing the temporary buildings. The supply officers were often confronted with the problem of furnishing sleeping quarters for several hundred men in the almost complete absence of beds and blankets. The overseas demand for woolen clothing and the uncertainties of freight transportation delayed greatly the supplying of the men with uniforms. Some units were ready to be demobilized before all their equipment arrived. In one small unit the commanding officer found that there were no beds for the hundred men in his unit. The men had come from a distance, so that they could not live at their homes. The influenza epidemic was beginning. It was necessary to take quick and decided action. In desperation the young commanding officer leased the necessary number of cots and blankets and sent a requisition for the amount of the bill. In due course of time the requisition was returned marked disapproved. The commanding officer, having guaranteed the payment, was obliged to pay the charges out of his own funds. This is but one instance of difficulties met and conquered by the men who were detailed to take charge of the training in the colleges.

Every effort was made to prevent delay in the induction of the men. A special form of induction was necessary for the S. A. T. C. owing to the fact that the local boards had not received the order numbers of the men who registered at the fourth registration in which most of the college men were. The procedure was extremely complicated. If the officers at the colleges made mistakes, confusion which would take months to unravel would result. Due to the fact that the system was new and complicated, many of the local boards failed to understand the competent orders at first, and it was necessary for the officers to make calls on those boards in the vicinity of the colleges and to engage in extended correspondence with those at a distance. Much valuable time was lost in this way. The induction of some of the students was held up for weeks. There were three or four cases in one of the larger units in which men, after having been furnished quarters and subsistence by the university for several weeks were finally prevented from being inducted into the S. A. T. C. by the orders to stop mobilization issued following the signing of the armistice. During the whole period there was a constant burden on the personnel officers. All these delays, troublesome as they were, were not the fault of any person or group, but seemed unavoidable.

The caliber of the students inducted into the S. A. T. C. has been the subject of much unfavorable comment. The entrance requirements at most colleges at which there were S. A. T. C. units were made exceedingly low. Graduation from a high school having a four-year course was the only requirement at first, and it was later modified to allow students who had finished only three years to enter under certain conditions. The result was that thousands of young men who were not fitted to pursue college studies successfully were admitted. In nearly all colleges the quality of the students was far lower than in normal years.

Of all the students in the S. A. T. C. it is estimated that only about sixty per cent[1] would have gone to college in normal times. The remainder were men who had entered the organization from one of two widely different motives. There were, on the one hand, dare-devil youths who wanted to enlist and to see action as soon as possible as officers; on the other hand, there were others who sought to escape, or at any rate to postpone, most of the dangers and hardships of military life by taking advantage of the opportunity to study some technical subjects and gain admission to a laboratory when transferred from the S. A. T. C. Just what proportion each of these classes bore to the other can not be determined, of course; but the number in the second class was evidently in a very decided minority. The soldiers enroled in the S. A. T. C. never failed to do the military tasks assigned to them. Almost without exception they placed too much emphasis on their military duties to the neglect of their academic work. It was found that men had volunteered for guard duty, hospital duty, and other work out of their turns in order to attract attention to themselves and to win the coveted transfer to an officers' training camp. The officers were obliged to exercise the closest supervision over their men to prevent them from absenting themselves from their classroom work. Time after time memorandums were sent out from Washington, from district headquarters and from the unit headquarters informing the men that only by strict attention to their scholastic work could they expect to receive recognition; yet at every opportunity the majority of them sought to be excused from their classes in order to take up some new and untried military duty. They were far better as soldiers than as students.

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[1] This estimate is based upon the number of students who remained in several colleges after January 1, 1919.

One of the great difficulties of the collegiate authorities was in the organization of the collegiate work to meet the requirements of the committee on education and special training. The soldiers' time was divided between academic and military duties, about two hours a day being given to drill and about seven hours to college work. The instructions of the committee provided for two hours of supervised study for each hour of recitation. On account of the variety of courses elected by different students it was a work of no little difficulty to arrange the schedules of lectures and study periods for all the students. In a few units the military authorities helped greatly by assigning all men belonging to one college or class to one company or minor subdivision. Colleges having compulsory courses fared much better under the system than those having many electives. Most faculties in colleges of arts and sciences found the task of arranging study periods so difficult that nothing was done except to make tentative plans for a system of supervised study. For the time the study periods were in charge of the military authorities. Instead of real supervision by the faculty members the men were assembled under the none too watchful eyes of the non-commissioned officer designated for the duty. At the night study sessions in most colleges the supervising professor was rare indeed. In the College of Engineering of the University of Cincinnati the study periods were organized and real supervision was given by the instructors. As a result during the period just before the signing of the armistice the instructors were able to accomplish more definite results than would have been possible without the S. A. T. C. The condition of organization was so rare that an inspector asked Professor A. M. Wilson why supervised study had been instituted. "We did not think the instructions of the committee a joke," he replied. "Those instructions required supervised study, and we have put it into effect." In most units the faculties were just beginning to make the laws definite for proper supervision of the study periods when the order for demobilization was received.

The difficulties of the commanding officers can not be appreciated without taking into account the character of the officers detailed to assist them. One of the best illustrations of the desperate need of officers which called the S. A. T. C. into being is to be found in the problem of the committee on education and special training, when it applied for officers to take charge of the training of the men in the S. A. T. C. units. No more officers could be taken from their regiments. Fortunately the vocational training detachments, also under the committee, had a complete complement of officers. These officers had not only received sufficient military training, but their relations with the vocational detachments had given them an insight into the problems of college administration and experience in meeting the varied requirements of administrators of college units. The committee on education and special training found it necessary to make a redistribution of these officers. Commissioned personnel sufficient for 34,000 men in 140 units was called upon to take charge of 140,000 additional men in 514 units. The only available source for the remainder of the officers required were the three summer camps which had been established for college men at Fort Sheridan, Ill., Plattsburg, N. Y., and the Presidio, Cal. Most of the men in attendance at these camps were very young, the period of their training was short and apparently not intensive as compared with the regular officers' training camps, and the graduates of the camps were hardly fitted, at the time of their assignment to the S. A. T. C., to take command of men being trained for officers. It was one of the most unfortunate features of the whole plan that experienced officers could not have been supplied. The assignment of the officers from summer camps to companies had a tendency to cause insubordination and inattention to duties among the enlisted men. Personnel adjutants with a training of a week or ten days in paperwork reported to take charge of the paperwork of induction and administration. Many of them did good work, but they were not efficient officers until they had mastered the difficult subject of army paperwork thru further training at the hands of the commanding officers.

The difficulties of administering the units thru inexperienced officers would have been less if there had been experienced non-commissioned officers to assign to the barracks to exercise direct supervision over the men at all times. Trained men could not be furnished to the units. The next best source of supply was the college students who had been discharged from the summer training camps without receiving commissions. These men were under a tremendous handicap in having been associated for several years with the men whom they were to command. It was practically impossible for them to maintain discipline unless supported to the limit by commissioned officers. The young officers often failed to give them proper backing, and the commanding officers could not be everywhere at once. The collegiate sections which had vocational training units in connection were more fortunate than those having the collegiate sections alone on account of the fact that men who had been retained as soldier instructors and as assistants in paperwork could be depended upon for regimental, battalion and company administration. Within the same unit those companies which had vocational instructors as first sergeants showed a noticeably higher standard in both military and academic work than those under first sergeants chosen from among the men in each company.

If all the obstacles had been overcome by the faculties and if there had been no difficulties for the commanding officers to solve, the S. A. T. C. could not have had an uninterrupted progress in the fall of 1918. The influenza epidemic would have deranged the best-laid plans. Hardly had the induction of the S. A. T. C. taken place when there occurred the great influenza epidemic which swept over the country, sparing no class, but taking its greatest toll among those who had recently left their homes to enter the barracks. The powers of resistance of these men were weakened by the inoculations and the changed conditions of living, and the contagion spread rapidly thru the common sleeping rooms. Commanding officers met the problem in different ways. In some units where the supplies were sufficient for the comfort of the men and where their dismissal would have involved a wide scattering, the men were put directly into barracks, and measures were taken to prevent the spread of the disease. In other units where the men lived near the college or where the lack of clothing made such a course desirable, the men were put on indefinite furlough until ordered back to school, and allowed to return to their homes for the emergency. In still other units a middle course was pursued: the men whose induction had been completed were held in the barracks and the others ordered home. Under any of the plans instruction, both military and collegiate, was interrupted. The work of guarding the soldiers against further contagion, taking care of those who were ill and the numerous fatigue details made necessary by the epidemic required that most of the men able for duty should fight the disease rather than drill or go to school at all times. The conditions in the great army camps were not greatly different.

It was impossible to recall the men to the barracks or to resume regular work under normal conditions until about October 25th. From that time until November 11th the conditions were as expected by the committee on education and special training and the heads of the educational institutions. Real progress was made in most of the units during this period. Most of the difficulties had been overcome, and it appeared that the S. A. T. C. would be successful. The signing of the armistice and the almost immediate cancellation of orders for the transfer of men to officers' training camps caused the interest of the soldiers to lag. The announcement made November 20th that the S. A. T. C. would be demobilized destroyed the last hope of the soldiers. Discipline became increasingly difficult to maintain. The *morale* of the corps gave way. Few of the men paid attention to their school work as they would have done under other conditions. In widely separated barracks it was impossible to keep down disorder. In drill the men gave an exhibition of spiritless execution of commands where before all had been snap and precision. Demobilization was the thing most desired by all. If the men could have been discharged at once, many untold incidents would not have taken place, and the reputation of the S. A. T. C. would have been far better; but the difficulty in paying off the men delayed demobilization in most of the units until nearly Christmas.

The spirit of insubordination was shown especially to the members of the faculty, who protested to the military authorities and then, when their protests failed to stop the occurrences, came to the conclusion that the military authorities were deliberately responsible for the condition. There had been a great deal of lack of cooperation between the heads of the institutions and the commanding officers. Charges and countercharges have been made on both sides. Too great interruption of the college work of the men is charged against some commanding officers; on the other hand, commanding officers allege officious interference on the part of the collegiate authorities in matters which were directly in their own province. Many observers have declared that the inherent weakness of the S. A. T. C. was in divided authority; that under the best possible conditions it must have been a failure.' Some instructors suggested as a remedy for the condition the placing of the commanding officer in a position subordinate to the president of the institution and on the same rank as the heads of the other departments, a solution which would have been impossible, of course. Control of the units could not have been given to others than officers of the army.

That such a solution as proposed was unnecessary in the main is shown in a careful investigation of the complaints against commanding officers. Instances have been cited where it was said that the commanding officers repeatedly called men out of their classes in order that they might dig ditches or do other fatigue work. In one or two places it is claimed that young commanding officers attempted to upset college traditions by the introduction of cigarette smoking on the college campus, and were lax in enforcing a full performance of academic work. As a matter of fact there was probably a larger attendance at classes during the S. A. T. C. régime than under normal conditions in the colleges, owing to the complete breaking up of the practise of undergraduates cutting class. In many units the number of men out on details of various kinds was less than the number of those who are absent without cause. In one unit only two per cent of the men were absent from classes from all causes together during a considerable period. In one case where it was claimed that the number of absences due to military details was excessive it was shown that the absentees were not members of the S. A. T. C. at all, but were men too young to be admitted to the unit. There were, of course, many absences on account of military details, some of them due to the conditions of the barracks or grounds which no officer responsible for the health of the men under him could risk leaving without improvement. It was impossible in many cases for the college officials to secure labor. Prompt action was necessary in the emergency, and the commanding officers were men who had been taught thruout their military careers that prompt action in emergencies was expected of them. It is doubtful if they interfered with academic instruction more than absolutely necessary.

There were isolated instances where the committee is said to have deemed it wise to transfer some of the commanding officers whose relations with the heads of the institutions were unsatisfactory, but the transfers were not carried out on account of the signing of the armistice. It is to be taken into account that most of the commanding officers were young men who had come from civilian life into the army after the outbreak of the war. In some cases, having become soldiers, they were more complete soldiers than the officers who graduated from West Point. Some were mere boys. As a class, however, the officers detailed for service with the S. A. T. C. were no better and no worse than those detailed with combat units; and they had the advantage of being somewhat familiar with college life and the problems of administration thru their connection with the vocational units. Their work had been successful, and their relations with the college authorities cordial while they had command of the vocational detachments. How can their failure—if failure it was—with the collegiate sections of the S. A. T. C. be explained?

First, it may be said that the vocational units were regarded by the colleges as a side-line; secondly, it was recognized without doubt that the men in the vocational units were not part of the college, and there was no vested interest to be overcome; and thirdly, the instruction of the vocational units was largely in the hands of the engineering faculties and of men employed for the emergency for that purpose, and the professors in the liberal arts colleges had only an academic interest in the work being carried on. Without apparently having a full conception of the purposes and character of the S. A. T. C., but considering it rather as an experiment in education, many observers were disappointed with the system, and they blamed the commanding officers for acts done while in the performance of their duties.

Cooperation between the commanding officers and the faculties was possible, and it was carried out in a number of instances with signal success. It was essential that there should be close liaison between them and a complete understanding on both sides of whatever was being carried out. In one unit the president of the college appointed one of his professors as executive secretary of the S. A. T. C. His duties were to act as a go-between for the members of the faculty and the military authorities, taking up disputed points with the military authorities, and issuing bulletins from time to time in explanation of certain phases of the work. The commanding officer designated one of his most capable young officers as school officer. He investigated complaints as to the attendance and discipline of the soldiers in class and study period, supervised the noncommissioned officers in charge of the men, and acted for the commanding officer in all matters pertaining exclusively to the collegiate work of the men. The plan was a decided success. It prevented friction and made for a better understanding all around. The executive secretary was taken into the confidence of the commanding officer, and the problems of the military authorities were explained to him. He in turn could explain to the other members of the faculty why certain measures were taken, and the explanation was considered satisfactory. The school officer kept close tab on the men's scholastic records, and built up for himself a department which would have been of the greatest importance in the selection of the great number of men to be sent to officers' training camps.

Wherever the instructions of the committee on education and special training were followed, both in letter and in spirit, the relations between the military and academic authorities were harmonious. Upon the same criterion the decision as to the success or failure of a unit may be based.

From the standpoint of academic work accomplished in its brief existence the S. A. T. C. was decidedly not a success. The college records show that a large proportion of the soldiers failed to pass their courses. Many became discouraged and failed to return after demobilization. Whether this condition was due to the military side of the S. A. T. C. or to the inefficient organization by the college authorities of the study periods provided under the plan of the committee on education and special training is not easy to say. Whether the system would have succeeded as an agency in civilian education if it had been allowed to run until the end of the year under favorable conditions is by no means certain. The period during which the S. A. T. C. was in successful operation was too short to warrant any positive statement on either side. The difficulties were being rapidly overcome at the time of the signing of the armistice, and it is probable that all obstacles would have been overcome within sixty days. Over seventy per cent of the institutions were willing to continue the corps until the end of the college year.

From the military standpoint the S. A. T. C. would have accomplished the purpose for which it was created. During the short period of its existence certain important results were accomplished. Eight thousand six hundred forty-two men were transferred to officers' training camps. One hundred thirty thousand other men were receiving training which would fit them to take their places in due time in officers' training camps, in technical corps of the army, or in the ranks. The same results could not have been attained if the same men had been sent directly to a training camp.

EDWARD C. SMITH

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VI

DISCUSSIONS

EDUCATIONAL LEADERSHIP

One hears a great deal about after-the-war needs of education, the aim and method in education, and so on. Following educational programs, local, state and national, one finds a great deal of time given to Americanization, vocationalization, and so forth. One would not care to detract an iota from the importance of these phases. However, when one sits and listens to all these get-nowhere discussions he can not help but wonder whether perhaps the salaries of teachers are not what they should be; whether, perhaps, the attitude of the public towards teachers and schools is not just what it would be towards any other business using the same methods of procedure.

Scan the educational programs the country over, and they almost all become conspicuous for the absence of even so much as a hint as to the scientific training of our teaching personnel. In our hurry and scurry to admit any one to teach, who so desires, we have not selected the fit. We admit thousands who have been poorly trained, often not trained at all. Again we have admitted immature people. Teaching involves a careful technique of application or practise. Mere rule of thumb methods have been tolerated, instead of procedure based upon fundamental scientific principles.

Just as long as we try to teach a real educational philosophy or scientific procedure to immature, untrained teachers we are going to fail. Real teaching is going to fail. If we wish to conform, as we surely must, to the fundamental principles of our democracy, we must change our methods of selecting and training teachers. This involves the elimination of a number of traditional features now in vogue. But surely they must be overcome. A change in our teaching personnel I believe the great need of the hour, and this in turn can only come about by far-visioned, courageous leadership.

It seems that only in the educational field can one talk feeble-minded nonsense and get a hearing, yes, a hearing with an encore. The time for "pussy-footing" in education is past. Not very long ago I heard a man declare, from the educational platform, that he has not had a new idea in education for twenty years. Another one advised a progressive superintendent not to go to universities like Columbia and Pennsylvania. The reason he gave was, that at these universities they "stuffed" students with "crazy" notions. Yet these two men are permitted to run up and down, mostly down, our country, appear before teachers and proclaim their medieval nothingness. Teachers are supposed to sit and listen to this palor traditionalism, supposed to look up to these men as leaders in education. You say, yes, these are exceptions. I grant that; but at the same time I can point to a number of other men, who hold responsible positions, who are looked upon as leaders, who are of the same type as the two mentioned. Attending an educational meeting, having an enrolment of 25,000, last December, I listened to a man of national reputation. A man who is classified as one of the biggest men in education in the country. This is what I heard, *viz.:* "We live in the most momentous times in the history of the world. Our educational system stands out as the best in history. Foreign countries are sending commissions here to study our educational system. We have won the world war thru our marvelous educational system," and so on ad infinitum.

Such educational "babble" is sold, and the sorry part about it is that it is sold dearly to a host of ready buyers. Of course, we uphold all the good in our educational system, but let us not forget that this world war has revealed certain undeniable facts. Should we ask these "babblers" questions like these, *viz.:*

Have we been teaching according to tradition or present and future demands? What have we done to conserve human ability? Have we fitted our education to the child, or the child to the system? Have we taught competition or cooperation? Was the war won due to educational systems or was it due to the scientific process of selection? Have we exalted school buildings above education for the child? Have we been paying teachers to hear lessons or to teach the factors involved in modern social and industrial life? Have we trained the head or the body? Have we trained the child to be individually responsible in life? Our jails, asylums and hospitals are the result of what? Have we trained the boy for business or used business to train the boy? and so on for scores more questions, what would they say?

I firmly believe that a large percentage of our citizens fail to function properly because they were made to lock-step to the ideas of one of these so-called leaders. Again, I believe that a large percentage of our boys and girls in school fail to function, because they are compelled to lock-step to a course of study, which means nothing to the person administering it, and much less to them. The cure for educational deficiencies is not the taking on of still more traditionalism. In order to get out of the educational hodge-podge, hit-or-miss methods we are in now, we must turn over the administrative reins to men with a real vision of the future needs of democracy; men who possess opinion and a will to inaugurate such procedure of instruction as will care for "all the children of all the people." Such men would bring about a change in the method of the training of teachers, educate, instruct and enthuse the present teachers toward a scientific, factitive procedure for the education of the child.

Truth-revealing statements are what we need. Too long have we followed in the steps of tradition, listened to hum-bug and tommy-rot "babblers." Sometimes we are so "nice" that plain talk hurts us, and we run for shame. However, would there be more plain truth telling about our educational work, there would be more serious education. Our system must cease to be made a prey to official self-satisfying machinery. We must cease to respect a man as an educator merely because he holds a prominent position. Simply because a man is a superintendent of a big city is no reason why he should be taken as a safe educational guide. Holding a position for twenty years is no proof that a man is an efficient educator. Routine and "pussy-footing" can do this. We must have men with vision broad and deep, and in addition to that unfailing courage; men who fear no precedent. Leaders must learn to defy precedent if necessary. Unless we give way to tradition and machinery and turn our leadership to real leaders, are we not going to have, or train our coming generation for, efficient citizens?

When America wakes up and gives to such men the administrative work we are going to care for innate ability in our children to the same degree as we are now caring for innate capacity in cattle and pigs. One can find all sorts of scientific information concerning the individual treatment of cattle and pigs, but when one looks for such information concerning our children it becomes a minus quantity. There seem to be so few far-visioned administrators thinking along the innate-ability line, that when one fosters such a movement he is called a faddist. Surely when the people begin to realize the necessity for individual-ability instruction will they be willing to eliminate some of these so-called educational leaders, and place the future of their children into the hands of men with a realization of the need of fostering congenital ability for the future safety of our democracy.

The entire educational leadership field needs an up-plowing. When the sod of tradition, ignorance and medievalism, as well as politicalism, is turned over and the sub-soil of the future leaders will appear on the surface, then only will we wake up to the most precious opportunity, the most essential duty in the world, that is to conform our methods in education to cater to innate ability, to care for the responsibility of the individual.

Talk about increases in salaries, content, aim, methods and demands in education as we may, we are not going to have a vitalized, functioning system, until we change our personnel. Incompetency and middle-age vision must give way to foresighted vision and leadership; a leadership that will make for a safe and sane procedure. How much longer administrative positions will go to figureheads, who often demonstrate a 0.25 I. Q., I do not know. I do know, however, that our system will not function, the very fundamental principles of our democracy will not function, the future directors of our democracy will not be prepared to cope with the demands of their places in society, unless we change our views concerning leadership.

H. O. DIETRICK

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A NEGLECTED TOOL IN THE CULTURE OF THE CLASSICS

For one whose browsing of the succulent herbage of the classics was all done more than a score of years ago, and whose subsequent pabulum has been the scanty wire-grass beside the well-traveled highway of vulgar efficiency, to offer even the most timid and tentative suggestion touching the matter at issue between the proponents and opponents of the Greek and Latin régime, would savor of both imprudence and impudence. Yet the spectators who gazed at the tourney over the pickets of the tilt-yard were not the last to observe the lost opportunities and fatal errors of the ponderous knights in their hardware suits within. Nor were they slow to shout words of advice to their belaboring and belabored favorites. The example which the age of chivalry affords us is the only excuse which I offer for intrusion upon this most thrilling tournament now proceeding between the aforementioned present-day schoolmen.

I have read with considerable attention the most notable contributions to this literature of controversy over the classics, and have waited, and waited in vain, for the one note to be struck which, to my way of thinking, would go far to compose the dispute and conclude the tournament in peace and harmony. The arguments of the opponents of the classics may be fairly summed up thus: (1) education is either on the basis of mental training or content. Classics are invaluable for the former, but of only passing service for the latter. If subjects of study can be found which will prove both disciplinary to the mental faculties and useful and satisfying at the same time, these subjects should be substituted for the classics. Properly studied, science, economics, history and many so-called practical subjects accomplish this very thing.

(2) The culture-value of the classics is for those only "who learn the languages and read the literatures," to quote Mr. Abraham Flexner in his recent article in the Atlantic Monthly. But it is obvious that to acquire either Greek or Latin with the facility needed to read the literature with intelligence and insight, would demand a much longer and rigorous term of training than the preparatory schools afford, and would pre-suppose a more than average capacity for linguistics on the part of the scholar.

(3) The real objects of education are cultivation of the powers of observation, fidelity, accuracy and discrimination in the expression and recording of these observations; and training in reasoning from the premises thus secured, and from cognate facts held in memory or found in print. This is the argument of Pres. Eliot, in his, to me, unconvincing, The Case Against Compulsory Latin. Latin and Greek, he would argue, do not meet these primary needs. Observation, discrimination and reasoning are cultivated just as effectively by other scholarly pursuits, which in turn are of more use to the learner.

(4) The highest human interests are concerned with religion, government and the means of supporting and improving a family. This is likewise the argument of Pres. Eliot, who proceeds to show that neither the Roman nor the Greek models are to be compared with those of later races and governments, which are far less faulty

from a moral standpoint than those of the classic period.

Now in these and other articles scarcely a word has been said about the responsibility of using the classics for cultural value, without driving the pupil thru the tortuous and torturesome labor of learning two dead languages. Dr. Eliot, to be sure, does hint briefly at this solution, when, in the article above quoted, he says: "It is a fanciful idea that to understand Greek and Roman civilization and to appreciate the historians, philosophers, orators, military heroes and patriots of Greece and Rome, one must be able to read Greek and Latin. The substance of Greek and Roman experience can be got at in translations."

Having torn the clouds enough to give us this fleeting glimpse of the sun, he allows the veil of fog to gather once more, and at the end of his article we are as much in the dark as ever. Nor is this most valued hint taken up and developed by Grace Harrier Macurdy in her contribution to the December, 1916, EDUCATIONAL REVIEW. Yet, to my way of thinking, it is the way out of the maze.

At this point, a bit of personal reminiscence may be pardoned, since it throws light on this question. In the curriculum of the Yale Divinity School, when I was in attendance over fifteen years ago, the study of Hebrew occupied the most prominent place for about half the time. During junior year four hours a week were devoted to the reading of the Hebrew Bible and the study of Hebrew grammar and syntax. During middle year the number of study periods in Hebrew was somewhat reduced, but the sum total amounted to at least 30% of the entire seminary course. Our professor was one who made the language, "tho dead, alive to speak." No more gracious or appealing personality ever occupied the chair of Hebrew than he. Yet what was the result? For the majority of students, a fragile and imperfect linguistic tool which broke down almost immediately after leaving the seminary: mental discipline which was of only questionable worth in view of the utter futility of the course: a lamentable lack of familiarity with the English Bible, due to the preponderance of time spent upon the Hebrew; and no greater acquaintance with the atmosphere of the Jewish literature, or appreciation of the culture-value of the sages, prophets, priests and kings of Israel (we had time for nothing but Genesis, part of Exodus and a few Psalms), than if we had saturated ourselves with the finest of the modern translations of scripture.

Within the past decade the Yale authorities have recognized these facts and bowed to the inevitable, and the study of Hebrew is now made an optional matter. Yet if the Christian minister, whose one indispensable textbook at all times must be the Bible, is found to be as effective for righteousness and as mighty in the things pertaining to the word of God, tho he may not know one vowel-point from another or one Hebrew substantive from its verb, why must the average university graduate, who comes only remotely and indirectly into contact with the classics, be regarded as deficient in culture if he has not drunk in the knowledge of Greek and Latin civilization thru the straw of those two identical dead languages?

Let us grant that "to study Greek and Latin is to study the embryology of the civilization which we call European and American," to quote Presdent Butler. Let us grant to the fullest extent that no one is broadly educated who is unversed in the salient facts and principles found in Greek and Roman life. Does it follow that in order to worship at the shrine of any race or people, one must be able fluently to read and talk in the language of said race and people? What English poet strikes the Hellenic note more truly on his lyre than Keats in his Ode on First Looking into Chapman's Homer? Yet the Greek tongue was a closed and padlocked book to him. How insensible to the color and fragrance and rhythm of Attic life is many a painstaking, pettifogging pedant, who by rule of thumb lays out the heroic dimensions of old Homer, and compasses his divinity within the span of paradigm and grammar law! To sail the summer seas, and tarry with the lotus-eaters where it is always afternoon, to hear old Triton blow his wreathed horn, and sit under the spell of ox-eyed Hera and cloud-gathering Zeus, it is not needful that the one who seeks to know these wonders pass thru the portals of the Greek language. If there is the love of beauty in his soul, he will sit with the gods and goddesses and drink the pure nectar of Olympus, whether he know the way of the iota subscript and the irregular verb or not. Into the most limpid and crystal of English translation have the deathless treasures of the classics, both Greek and Latin, been turned. The shining marbles of the Acropolis and the thunders of the Forum are for eye and ear unacquainted with the least word or syllable of the language of Athens or Rome. The civilization of the classics, with its wealth of customs and manners, philosophy and poetry, laws and statescraft, outlook on life and inlook on self, are preserved in English, within the reach of the most linguistically untutored.

Of late years I have been reading things that I should have read in college, but for the monopoly on my time exerted by the courses in Greek and Latin languages. Such books as *Life in ancient Athens*, by Prof. L. G. Tucker, and *A day in old Athens*, by Prof. William Stearns Davis, and Inge's *Society in Rome under the Caesars*, do much to supply the deficiency in general knowledge about ancient civilizations left by the orthodox linguistic pursuits. Let the schools and colleges make the study of the languages of Greece and Rome optional, to be undertaken by those who possess distinct and irrepressible philological taste. For the rest, let them early be given such instruction, from the best of translations, in the cream of the classics, that the moving eloquence of Demosthenes and Cicero will stir their minds, the spiritual imperatives of Sophocles and Aeschylus will mould their wills, and the warm summer-lightning flashes from the fancy of Aristophanes and Plautus will feed their love of the incongruous, which is the soul of humor. Into these pastures at present none but the one who has toilsomely mastered the classic languages may enter. From him is barred, by the modern inexorable curriculum requirements, all this world of wealth. From school and college he goes, with but the scantiest and most sophomoric knowledge of the immortal facts of early civilizations. Why? Because he must enter the kingdom of the classics thru the needle's eye gate of linguistic proficiency. Because the philological mind is made the condition of admission to the wonders which lie behind. Because the common-sense method of transmitting the riches of the myths, folk-lore, history and literature of non-classic peoples thru the medium of the English language, has been only partially and reluctantly followed in the case of Greece and Rome. In brief: because of the fallacy inherent in the thesis that there is no culture-value in the classics unless one learn the languages and read their literatures in the original. As for mental discipline, the soil in the field of knowledge is hard to till, whether one use the tools of the classics or some other breaker of the glebe. Greek roots bring no more honest sweat to the brow of the digger than a hundred other deep-hidden nuggets of truth.

SHELTON BISSEL

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VII

REVIEWS

What the war teaches about education, and other papers and addresses—By Ernest Carroll Moore. The Macmillan Company, New York, 1919.

If there is another book that shows more vividly the powerful reaction of an expert professional educator to the problems raised by the world war, the reviewer does not know of it. On the whole, what the papers of the book have to say is of value, and the manner in which it is said is forceful, clear and convincing.

Tho not all the contents of the book needed the war for their presentation, yet the background of the war has affected very sensibly the presentation of every one of them, even the discussion of the doctrine of formal discipline in general, and specifically in mathematics and the classics to which several chapters are devoted. There is a fire in the treatment of them kindled by the explosion of German shells on the fair fields of France. The light from the great conflict reveals, as it has never before been revealed, the fundamental importance of education for the welfare or ultimate disaster of a nation. Prussia's success in moulding a whole people into subserviency to the ambition for power of a small special class thru her folk schools, so admirably adapted to their special purpose in the state, has shown the appalling power of primary education in particular. Perhaps in no other way could the power of education be so forcibly brought to the minds of men, than by the perversion of it in the hands of a dominant class to its own ends. The utter prostration of Germany today, the loss of her preeminent position among the nations can be laid at the door of her educational system more than anywhere else. A people may live in holy fear of its school system and its schoolteachers, or regard them as redeemers of life from futility if not from destruction.

One rises from the reading of this book with that impression burnt into the mind. He sees that making the world safe for democracy is at the bottom a matter of education—an education the reverse of the Prussian education. Nietsche, at once the child and spokesman of this system, as quoted by the author, declares "The education of the masses can not * * * * be our aim; but rather the education of a few picked men for great and lasting work." The author observes in this connection: "That may be the ideal of education in a master and slave autocracy; it is not and can not be the aim in a democratic state. * * * * Our ministry is therefore to the elementary schools and thru them to the secondary schools, the colleges and universities." From the folk schools of Germany no road was open for the "few picked men" to find their way "for great and lasting work;" nor was there training in them into intelligent, free citizenship of the masses.

Great Britain, as Mr. Moore tells us, has been so powerfully impressed by what the war has revealed, that conservative as she has ever been, and up to today incapable of thoro educational reform, she has at last undertaken a reform from the bottom of her educational system. He has added to his book an appendix in which is printed the English Educational Act of 1918.

What are the defects of education in America as revealed by the war, and what are the specific problems and their solutions, the writer attempts to disclose. Doubtless he may seem to have lost sight of the values of culture as distinguished from efficiency. But it may be questioned on the one hand whether our methods of education have been efficient for the attainment of culture, and, on the other, whether our pursuit of a general culture has not left us without efficiency in the art of life, the supreme art of all the arts.

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Brightness and dullness in children—By HERBERT WOODROW. J. B. Lippincott Co., 1919. 322 p.

The usefulness of intelligence testing during the recent war in selecting our army recruits for their various tasks has been thoroly demonstrated. It has afforded the psychologist an opportunity of proving to the world the value of the work begun by the brilliant French scholar, Binet, in 1904, and developed later by the careful scientific studies of psychologists in this country and abroad. Before the war the worth of psychological testing was not generally admitted. The question now, however, is not, Are intelligence tests of value? but, How may school principals and teachers make a proper use of them?

This new volume, *Brightness and dullness in children*, by Professor Woodrow, of the University of Minnesota, is prepared to meet such a need. It is written upon the assumption, as stated in the introduction, that "the teacher of today needs a knowledge of the modern psychology of intelligence." A general notion of its contents may be gathered from a list of its chapter titles: The Measurement of Intelligence; Brightness and Dullness; Brains; Physical Defects; Anatomical Age; Pedagogical Age; Simple Mental Processes; Association, Memory and Attention; Complex Mental Processes; Mental Organization; Heredity; The Organization of Education; Educational Methods.

An important feature of the book is that it is written in a style that is particularly clear and free from technical terms. It can be read easily, and therefore will be particularly acceptable to the classroom teacher.

Of particular value to the teacher are the pages devoted to a very clear discussion of the significance of the chronological, mental, pedagogical, and anatomical ages of children. The necessity of this knowledge concerning a pupil as a basis for determining what type of instruction he should receive is clearly brought out. The chapter discussing anatomical age is especially valuable. None of the recent books written upon the measurement of school children gives much attention to this factor of a child's complex existence. Without doubt too much attention has recently been given to the intelligence quotient and mental age as bases for classification, and too little consideration to anatomical age and other important factors. Professor Woodrow believes that the chronological age must be corrected by the anatomical age. It is quite well established by the best data at hand that thruout the grades girls have a slightly higher mental age than boys of the same chronological age. Professor Woodrow suggests that this superiority of the girls may be due to the well-known fact that they are from one to two years older anatomically than the boys. Attention should be called also to portions of the chapter on Educational Methods, where there will be found an unusually sound criticism of the sense training employed by Seguin and later by Mme. Montessori.

The general recommendations of the author as to methods of instruction and general adaptation of school procedure to the pupils' needs are sound and wholesome. He is quite in accord with the opinion of progressive teachers that too much attention has been given in schools to the less able pupils and too little to the more gifted.

Two other books in this general field of education have recently appeared—*The measurement of intelligence* and *Intelligence of school children*, both by Professor Terman. Professor Woodrow's book combines in a general way the material presented in both the volumes of Professor Terman.

On the whole, this volume is a distinct contribution to the literature dealing with this important subject, particularly on account of its clear exposition and thoroly readable style. When the scientific knowledge contained in this book has begun to affect the practise of schools, we may expect to see many of the absurdities of the present grading system disappear and a much better adjustment of a school procedure to individual needs. The average reader, however, will probably be less interested in parts of certain chapters devoted to psychological discussion, such as portions of the chapter on Brains and the discussion of the Theory of Brain Action. From the standpoint of its practical value to the schoolteacher much of this material might well have been omitted without serious loss to the total value of the book, and its place taken by more concrete material and case studies.

HORACE MANN SCHOOL
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HENRY C. PEARSON

Life of John Marshall—By ALBERT J. BEVERIDGE. Boston: Houghton, Mifflin & Co., 1916, 1919. 4 vols. 506, 594, 644 and 666 pp.

Altho the EDUCATIONAL REVIEW is not the place for an extended and critical examination of this work, it certainly is the place to say that no reader of American history and no teacher of that subject can afford to leave it unread and unstudied. No library, public or private, can afford to be without it. It is simple truth, and not the language of exaggeration, to say that Senator Beveridge has made a truly massive contribution to the literature of American history and American government.

No one of the great fathers of the Constitution has been so adequately and so vividly portrayed. John Marshall is made to live in our presence. We see the man from youth to old age, his ruling traits, his dominant characteristics, his points of great strength, and his few weaknesses. The work falls roughly into two parts—the one dealing with Marshall's personal, political and professional career, and the other dealing with his judicial career as interpreter and expounder of the newly made Constitution. Senator Beveridge is equally happy in treating both periods. Marshall's early life in Virginia, his political activity, his powerful part in the Virginia Convention to ratify the Constitution, and his service as envoy to France, are all treated with vividness, ample detail and generous enthusiasm. The story of the French Mission of which Marshall was a member has never before been so well told.

When the reader passes to the third and fourth volumes, in which is recounted the story of Marshall's long service as Chief Justice of the United States, he passes into a different atmosphere. Senator Beveridge traces the political history and the political background of each of the great constitutional cases before he describes its legal aspects and its judicial determination. The consequence is that a layman can follow these discussions with full appreciation and complete understanding. The great issues settled in Marbury *v.* Madison, in Fletcher *v.* Peck, in Cohen *v.* Virginia, in Chisholm *v.* Georgia, in Gibbons *v.* Ogden, are seen to be, not legal and constitutional technicalities, but matters of living interest for the people of the whole United States. From these portrayals we get a new idea of the difficulties and doubts that attended the founding and the building of the government of the United States. We see nullification and even secession threatened, not by those of one party or of one section alone, whenever anything was done with their disapproval. We see Jefferson on his worst side, intriguing, plotting and putting obstacles in the way of the building of a strong, unified nation. We see Jackson at his worst, with his narrow-mindedness, his stubbornness, and his utter lack of knowledge of large questions of business and of government. That he redeemed himself in his attitude toward the nullifiers of South Carolina is one of the fortunate contradictions of his strange career.

Perhaps no one but a public man of wide reading and large economic and historical scholarship could have written this great book. It is doubtful whether any academic historian or mere bookish student of American history and government could have produced a result at once so sound and so interesting, so complete and so vivid. Senator Beveridge's *Life of John Marshall* illustrates admirably some of the half humorous, half sarcastic references which Theodore Roosevelt was in the habit of making to the writers of American history.

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VIII

NOTES AND NEWS

The Union, the Council and the Institute

One of the most hopeful outcomes of the war is seen in our efforts toward international cooperation in education. For this purpose no less than three great associations composed of prominent educators and leaders in other professions and finance, have been carefully organized and instituted. These are the American University Union in Europe, the American Council on Education, and the Institute of International Education. The early activities of the Union were concerned with meeting the needs of American college and university men while on war service in France, Great Britain, and Italy, but it always contemplated the development of a permanent institution to encourage graduate study by Americans in these countries and to cultivate better understanding of the United States in Europe. Since the armistice it has reorganized its governing board upon this peace basis. The Council was established upon the entrance of the United States into the war, when the college and universities of this country undertook to assemble their resources for the support of the government in carrying on the war. It has since been continued to promote cooperative action in matters of common interest to the educational bodies represented, including educational relations with other countries. The Institute was organized after the armistice for the purpose of enabling the United States and foreign nations to understand each other better by means of educational agencies. It was specifically intended to furnish foreigners with information concerning educational matters in the United States and Americans with similar information about education in other countries.

The Union has established permanent quarters in London and Paris, where it carries on conferences, reading-rooms, and social activities, and provides introductions for Americans desiring to engage in study or research in England and France. It serves as the agent of the Institute in those countries. The headquarters of the Council are in Washington, and their undertakings emphasize matters of importance in American education, such as federal legislation, education for citizenship, and the training of women for public service, as well as international relations in education. The Institute includes among its activities exchanging professors of European countries with those of the United States, circuiting lecturers from abroad in America, receiving and informing foreign commissions and delegations while visiting this country, establishing fellowships in American universities for foreign students, and encouraging international relations clubs at all important colleges of the United States. It makes its headquarters in New York.

Thus, in a way, it may be said of the three organizations, both from their avowed purpose and their "local habitation and name," that the Union stresses the foreign side of international relationship, the Council views the matter from the standpoint of American education, and the Institute coordinates and unites the two phases of the work. Each group seems to have distinct origin and contemplates a peculiar function of its own. Nevertheless, it was apparent almost at once that all three might to some extent be regarded as a clearing-house for educational information and advice concerning the United States to foreigners and concerning the European countries to Americans. Efforts were accordingly made to reach a working agreement and avoid overlapping and the appearance of competition. Thru a recent conference of the Secretary of the Union, the Director of the Council, and the Director of the Institute, the organizations have been enabled to agree upon such a definition of their respective fields of endeavor as has been indicated in the paragraph above. The arrangements proposed in this basis of cooperation are working admirably. Each organization keeps the other two posted as to its activities and gives them the benefit of its facilities. Representatives of each group appear on the administrative or advisory board of the others. And the Secretary of the Union is at present cooperating with the Director of the Council on a scheme for establishing equivalents in French and American universities, and with the Director of the Institute on a pamphlet concerning opportunities for Americans to study at higher educational institutions in France. Whether the organizations continue on this basis of a sphere of influence or become completely amalgamated, they are destined to improve very greatly the mutual understanding and *rapprochement* of Europe and America, and, educationally speaking, the war will have brought some compensations.

Educational bills before Congress

Both the cooperative reports just mentioned will shortly be published by the organizations concerned. Meanwhile, Dr. Samuel P. Capen, the Director of the Council, acting under one of the original purposes of his group, as well as by authorization of the working agreement, has issued a report on the educational bills before Congress. In the first number of the Council's organ, *The educational record,* he has presented "a digest of all the bills that have more than local bearing." The number of proposed enactments is unprecedented in the history of American legislation and education. There are more than seventy Congressional bills and joint resolutions that bear upon education. This plethora of legislative proposals is obviously part of the aftermath of the war. Thru the great conflict have been revealed most fundamental weaknesses in our educational situation,—physical unfitness, ignorance of the English language, and want of technical skill, and statesmen are now rushing in to repair the breaches and strengthen the structure. While Dr. Capen makes "no attempt to take sides on any issue," much less to settle the questions connected with the federal control of education, he sets forth the implications and value of each bill so clearly that it is easy to decide for oneself upon its merit. While probably one-quarter of these bills are of great importance as affecting national policies in education, not more than three or four are likely to pass at this session.

The proposals include military bills with educational features, bills affecting the present Bureau of Education or the Federal Board of Vocational Education, and bills creating new departments, boards, or commissions. Of the military bills, the one known as the Army Reorganization Bill (*S.* 3688) by Wadsworth is the broadest and strongest. It emphasizes the educational aspects of military training and recognizes that others beside the military authorities must be associated in the training of those who are to be primarily citizens and producers. Under this bill every physically and mentally fit male is to be compelled to undergo a course of military training for four months in his nineteenth year, but the training is to comprehend certain work in vocations, including agriculture, and the managing commission is to contain "among its members at least one-half who are reserve officers or practical and experienced civilian educators or physicians." The expense of such a national undertaking would clearly be enormous—probably not far from a billion dollars—and it is subject to the usual charges of "militarism" and interference with the legitimate work of the educative period. Nevertheless, it looks now as if the bill might pass.

The most conspicuous of the educational bills affecting an existing bureau or board of the government are the Kenyon-Vestal Bill for Americanization (*S.* 3315 and *H. R.* 10710) and the Fess Bill for the National Rehabilitation of Persons Injured in Industry (*H. R.* 4438). The former would place the administration and investigation of Americanization and the eradication of illiteracy in the hands of the Bureau of Education, and the latter would have the vocational retraining of industrial cripples directed by the Federal Board of Vocational Education, altho in each case the states must appropriate an equal amount with their apportionment. Thus two federal offices would be given control over local arrangements, and the bureaucratic principle, once so abhorrent to us, allowed a further extension. These bills, too, have other defects, such as the low salaries fixed for those who would administer the acts, which would utterly preclude the possibility of securing competent men. The matters, however, with which these proposed acts deal, are concerned with such vital and crying needs that at present it seems not unlikely that they will pass.

The Smith-Towner Bill

These three bills and innumerable others that have been or now are under consideration, make it only too evident that at present there is almost a stampede toward an extension of federal participation in educational affairs. Dr. Capen states:

> The tendency to bring education within the scope of Congressional legislation is increasing. While the control of education is still admitted to be the function of the states and not of the federal government, one measure after another has found its way on to the statute books, which tends to break down the integrity of this theory. By accretion we are getting a nationalized system of education, more and more influenced, if not actually controlled by the federal government.

The really serious part of the matter is, however, that we are drifting in our exercise of the most important function of state or nation,—education. We go steadily ahead, enlarging by haphazard or accident the share of the federal government in directing the most vital of its interests. As seen in the bills described above, there is the greatest divergency in designing the agency thru which the government is to act. Is it not time that we sought some comprehensive plan for the federal participation in educational affairs? Clearly the educational functions of the federal government have now become so numerous and complicated as to require a different and more inclusive type of machinery to deal with them. It is time that the overlapping, conflicting interests, confusion, and delay ceased. No consistent policy, and certainly no economy in results, can be expected until all phases of federal education are directed by one coordinating head, with a position of sufficient dignity and power to be worthy of the work.

It is here that the Smith-Towner Bill to create a Department of Education (*S.* 1017 and *H. R.* 7) comes in. This proposed enactment recognizes the national need and obligation, and it affords the encouragement that the nation alone can give. It handles in a broad and statesmanlike way all the difficult problems and crying needs contemplated by the other bills, and deals with them all in one organic project. Besides the elimination of illiteracy, the spread of Americanization, and the promotion of health and physical education, it provides for the adequate training and compensation of teachers, which at the present time constitutes the most momentous educational problem that this nation has known. The steady migration of competent teachers into other lines that will afford a proper standard of living has already created an educational crisis, and will shortly prove subversive of every other national activity, if means are not devised to check it. Under the Smith-Towner Bill, this and every other educational problem are embraced as parts of a comprehensive plan for lifting American education out of the Slough of Despond into which it is so rapidly settling.

It is easy to criticize the bill. Destruction comes more readily than construction. But it must be remembered that a special professional committee of the National Education Association drafted this proposal. After the most careful discussion, it was formulated by the Commission on Emergency in Education, composed of five leading state superintendents of public instruction, seven prominent city superintendents of schools, and representatives from the normal schools, the state and endowed institutions of higher and secondary education, and the public systems of schools. It was submitted for criticism to all organized bodies and individuals interested in education that could furnish the commission with any light. Any one conversant with the literature of the subject and all who listened in an unbiased mood to the papers of Dr.

George D. Strayer and Dr. William C. Bagley at the recent meeting of the Department of Superintendence must have been convinced both of the educational crisis that confronts us and of the strenuous efforts put forth by the framers of the Smith-Towner bill to create an adequate means for meeting the emergency.

Unfortunately the bill is, at the time of writing, still in committee. Dr. Capen may have been right when he stated at Cleveland: "Both of its major propositions, the Department of Education and the large federal subsidies for education, are anathema to the present House. The wave of propaganda has carried the bill as high as it can be carried. The tide is now going down." But Congress, like the majority of educational laymen in the country at large, is blind to the way in which the national welfare and progress are imperiled by the general neglect of our schools, and to the absurdly chaotic way in which federal legislation, present and past, has proposed to meet our educational needs. The bill ought to pass, for, if it does not, what other comprehensive and effective measure has been formulated to meet the national crisis?

Research stations

Dr. Capen concedes that "the bill has served a very useful purpose," but holds that "it can now honorably be abandoned in favor of something better." He feels that what is needed is a body of principles, rather than immediate legislation, which shall be ascertained after careful scientific investigation, and proposes the Council he is directing as a means of focusing the best informed opinion. While we fear that such a delay may result, as with the young physician, in the investigation becoming a post mortem instead of a diagnosis, we are greatly pleased with the general idea of educational investigation. It seems to be in keeping with the order of the day. It is in recognition of this trend in affairs educational that Dr. P. P. Claxton, United States Commissioner of Education, has recently undertaken to establish research stations at several of the leading universities of the United

States. In a memorandum dated September 15, 1919, he has given as the purpose of the plan:

(1) To promote scientific research in education, and to make the results of such research available to students of education.

(2) To utilize in a national way such special resources and facilities as may be placed at the disposal of the Bureau of Education by the cooperating institutions.

(3) To coordinate and stimulate the educational forces available in the cooperating institutions.

(4) To bring the Bureau of Education into closer relations with the educational agencies of the country, and thereby to promote the Bureau's understanding of educational needs and problems, and to extend its range of effective service.

In general, the following plan of organization has been adopted: The Commissioner selects the educational institutions that are invited to participate. The president and board of trustees are to accept the plan as outlined by the Bureau. The president of each institution nominates representatives to serve as special collaborators of the Bureau of Education, each at the nominal salary of one dollar per annum. Upon the recommendation of the Commissioner, these nominees are formally appointed by the Secretary of the Interior. Before a project can be undertaken by the research station of any one of the cooperating institutions, it must be approved by the Commissioner. The project then becomes the work of the Bureau and the report of results becomes its property. However, the acceptance of this plan by an institution does not prevent it, or any of its members, including the special collaborators, from carrying on investigations independently of the Bureau.

The Bureau proposes to be of service to the various stations by (1) acting as a clearing house thru which the cooperation of the various stations may be secured; (2) preventing the overlapping and duplication of investigations in various parts of the country; (3) extending the franking privilege to the special collaborators for the purposes of carrying on investigations; and (5) furnishing such preliminary printed forms as the Bureau's resources will permit, and printing reports of investigations which, in the judgment of the Commissioner, are of sufficient value. In a later issue of the EDUCATIONAL REVIEW the plans will be more fully discust by the Assistant to the Commissioner.

The first meeting of directors of the research stations was held in St. Louis, January 2, 1920. Representatives from the Universities of California, Illinois, Kansas, Michigan, North Carolina, Pennsylvania, Texas, and Wisconsin were present. This meeting was given largely to the discussion of plans of procedure and suggestions of possible problems to be undertaken by the various stations.

A Journal of educational research

In this connection it is fitting to extend a welcome to the new Jounal of Educational Research. It is edited by Dr. B. R. Buckingham, Director of the Bureau of Educational Research at the University of Illinois. The journal is the official organ of the National Association of Directors of Educational Research, and its staff of associate and contributing editors includes many of the leading research men thruout the country. It is the purpose of the editors to publish only first-class scientific papers, and make the journal of great value and interest to educators everywhere.

A Campaign for research

But research is not to be confined to education. Renewed emphasis upon scientific investigation of all kinds is everywhere in evidence as a result of the war. Probably the best organized and the most competent body that has undertaken a continuous venture of this sort is the National Research Council at Washington. This Council is headed by Dean James R. Angell, at present on leave of absence from the University of Chicago, and its membership is composed of the most prominent specialists in every line from all the institutions of the country. Such an organization is most promising and we already have an abundant earnest of its success, but this is scarcely sufficient. Hence we are glad to find a most timely and urgent plea for the development of research thruout the country in the *Annual message* of

Dr. Arthur O. Lovejoy, retiring President of the American Association of University Professors. Among many other stimulating suggestions in his report, he issues the warning:

> Either the progress of science will be abruptly and immensely retarded—with all that that means even for the immediate tasks of reconstruction; or else the United States must, during the next generation or a yet longer period, undertake to do a great part of what, under normal conditions, would have been Europe's share of the scientific work of the world.

Europe, especially Germany, the main source of organized research, is financially flat, and will be unable to carry on this work as it has previously done. That means there must be the greatest possible enlargement both in resources and in number of competent investigators at American institutions. Research can no longer be carried on as a "parasitic industry" by men who are overburdened with teaching and dulled by pot-boiling activities outside their routine. Means must be devised for the discovery of young investigators, and every opportunity and encouragement should be afforded them, while they are still at the producing period around thirty, to devote themselves to constructive research. In this matter, Dr. Lovejoy maintains, faculties need enlightenment and missionary work almost as much as boards of trustees, and he exhorts the various chapters of the Association to carry on a vigorous and effective campaign to secure ways and means.

Report on mathematical requirements One of the most careful of educational investigations and most progressive of reports made for some time is that of the National Committee on Mathematical Requirements, recently printed by the Bureau of Education. The purpose of this preliminary report is to further discussion and study. "It is hoped that wide-spread discussion by organizations, committees, local groups, and individuals, will result in suggestions which may be incorporated in a revised report to be issued by the National Committee." The committee has tried to suggest a course in mathematics beyond arithmetic which will give the child the best possible training by the close of the tenth school year. While it is concerned with the first two years of the four-year high school, much of the work will naturally find place in the seventh and eighth years in systems where the junior high school exists.

In stating the purpose of mathematical education, the committee has given little or no place to the old idea of "formal discipline." They suggest the development of specific mathematical abilities and habits, which will be of value in meeting the situations of life. The material for each year is to be selected because of its intrinsic value, rather than on the basis of preparation for future study. Attention is centered largely on those phases of mathematics that are of practical value. In algebra, the equation, formula, graph, and solution of problems are emphasized. Only so much of the mechanical work, such as addition, subtraction, etc., is recommended as is necessary for the successful mastery of the more practical work. In geometry much of the demonstration is to be replaced by intuitional geometry. The committee further suggests the omission of the following topics: highest common factor, least common multiple, most theorems relative to proportion, literal equations except as needed in formulae, square root of polynomials, cube root, theory of exponents, simultaneous equations in more than two unknowns, simultaneous quadratic equations, theory of quadratics, binominal theorem, arithmetical and geometrical progressions, imaginary numbers, radical equations, and much of the demonstration in geometry.

A national council of mathematics teachers

Truly the teachers of mathematics are awakening. Another evidence is found in the conference of mathematics teachers held in connection with the recent meeting of the Department of Superintendence. The main outcome appears in the organization of a National Council of Mathematics Teachers. The purpose of the organization is to unite the efforts of teachers of elementary and secondary mathematics of the nation to improve the teaching of their subject, and to bring the work in their field to the attention of the schoolmen of the country. An indispensable feature of the work will be a national magazine devoted to the improvement of the teaching of mathematics in the elementary and secondary schools. It is possible that arrangements will be made to use either The Mathematics Teacher or School Science and Mathematics for this purpose. It was the sense of the meeting that in any case the official organ of the Council should be a high-grade magazine.

A constitution was adopted, providing for both individual and club membership. The officers elected are: President, Dr. C. M. Austin, Chairman of the Mathematics Club of Chicago; Vice-President, Dr. H. O. Rugg, Lincoln School, New York; Secretary-Treasurer, Dr. J. A. Toberg.

Graduate schools of education With the beginning of the next academic year the two oldest institutions of higher learning in this country, Harvard and Yale, will take a decided step forward in teacher training. Harvard will open its new Graduate School of Education, which has been assured thru gifts and pledges applicable for that purpose in connection with the Harvard Endowment Fund Campaign, and Yale will start similar work thru the installation of a Department of Education in its Graduate School. Harvard is now inaugurating a separate school for the work, which is in effect a reorganization and enlargement of the courses in education hitherto given by the Division of education in the Faculty of Arts and Sciences. At Yale the subject of education, which has been taught in desultory fashion for about a decade, will now blossom into a full-fledged department, altho it will for the time being at least remain within the general Graduate School. At both institutions, however, the work will be established upon a graduate basis, a bachelor's degree being required for admission, and both will offer the degrees of Master of Arts and Doctor of Philosophy. Furthermore, all the work and the advanced degrees will be open to women upon the same terms as men. At the start the work of each institution will be conducted by a staff of half a dozen or more prominent professors and assistant professors.

The aim will in both cases be the training of efficient teachers and school administrators and the fostering of educational research. The preparation of educational leaders—investigators, college and normal school professors of education, superintendents, principals, supervisors, and specialists—is specifically intended. A score or more of courses in the History and Principles of Education, Educational Psychology, School Hygiene, Educational Organization and Administration, Secondary and Elementary Education, Vocational Training and Guidance, Play and Recreation, and some more specialized courses will be offered. Cooperation with towns and cities in the vicinity will make it possible to offer a wide range of opportunities for apprentice teaching under expert supervision. Considerable attention will also be paid to the service of the public schools thruout the states of Massachusetts and Connecticut by means of extension courses suited to their needs, and thru information and advice concerning the practical problems of the schools.

Surely the world do move. Until recently the word "Education"—or "Pedagogy" during the most virulent days—was scorned and anathematized by most of the great endowed universities. The subject was in hopeless disrepute, and the faculty held itself aloof both from it and the common schools it claimed to serve. Of these great institutions, probably none, except Princeton, which must soon come to be similarly enlightened, was more characterized by conservatism in this respect than Harvard and Yale. Courses in education were opened at Harvard nearly a generation ago, but the heroic fight that had to be made by Dr. Hanus even to secure credit is still historic. For almost a decade he was the only member of his department, and "every man's hand was against him." Yale was even slower in its recognition of the subject. Of course, all the western state universities, together with some of the large eastern institutions, like Cornell, have for over a quarter-century made a generous provision for the work, both on a graduate and undergraduate basis, and the great Teachers College of Columbia, whose annual budget now totals a million and a quarter, has given magnificent service for thirty years. But Harvard and Yale have now put forth the first efforts to place the work in education upon a strictly graduate basis, for even Teachers College, while nominally a graduate school prides itself upon giving an opportunity to normal school graduates and other "home-made" scholars.

These new ventures, therefore, indicate a most radical change of attitude. And when two of the great universities that have for a century set standards for academic procedure are ranging themselves squarely behind the growing movement for sound professional training of men and women for public school service, the influence of their changed policy is bound to be felt thruout the country. The time may not now be far distant when as thoro training will be provided and required for at least the more important public school positions as is now demanded for the medical and legal professions. In this respect the universities appear to be striving to offset the masterly inactivity of the national legislature.

Schoolmen's weeks

Mention has been made of the efforts of the new Schools of Education to serve the public schools in their states. Probably in no other way can this service be more effectively promoted, considering the time expended, than thru the institution now operating in a number of universities, known as "Schoolmen's Week." Despite the name, in most instances the sessions have come to be concentrated in three or four days. The purpose is to advance the cause of education in schools of all grades and kinds thru the arrangement of programs that are particularly adapted to the solution of the most immediate, as well as the most fundamental, educational problems of the state. At the meetings each year the best thought and practise in the nation and state are considered thru papers and discussions, while between sessions investigations are made, to be reported on at the annual gathering.

The Schoolmen's Week at the University of Pennsylvania has been in existence for the past seven years, and, under the charge of Dr. Harlan Updegraff, Professor of Educational Administration, it has probably become the most influential institution of its kind in the United States. In past years it has carefully worked out studies of a professional code of ethics for teachers, teachers' salaries, assessment and taxation, distribution of state school funds, teacher training, consolidation of rural schools, and educational guidance. The flourishing Bureau of Educational Measurements in the School of Education is a direct outgrowth of resolutions passed during Schoolmen's Week. The Bureau is rendered more efficient thru "group conferences" held in various centers of the state, as well as in individual districts, and there are annually nearly half a million tests given to children in the various districts of the state.

The sessions this year were held upon April 8th to 10th. The general subject of the program was the present emergency in Pennsylvania education,—the facts, conditions, and remedies. The most important features considered were the reorganization of the State Educational Association, and the organization of a state-wide campaign for school betterment, including increased support, thru local and state agencies. Other discussions were concerned with the equalization of educational opportunity in high schools, educational measurements, intelligence tests, a state salary bill, consolidation and transportation, and a new system of state certification. Notable addresses were made by Dr. Thomas E. Finegan, the new state superintendent, and leading educators and men of prominence in public affairs from all parts of the country.

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